المنشورات العلمية والتقنية رقم: 580

# الأمـراض الحيـوانية المصـدر والأمراض السارية المشتركة بين الإنسان والحيوانات

الطبعة الثالثة

الجزء الأول: الأمراض الناجمة عن الجراثيم والفطريات

بيدرو ن. آتشا وبوريس تسيفيرس

صدرت الطبعة الأنكليزية عن
منظمة الصحة العالمية
الإقليم الأمريكي
PAHO

صدرت الطبعة العربية عن
منظمة الصحة العالمية
إقليم شرق المتوسط
EMRO

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2003

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2006

# الأمراض الحيوانية المصدر والأمراض السارية المشتركة بين الإنسان والحيوانات – الطبعة الثالثة

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جميع الحقوق محفوظة.

إن التسميات المستخدَمة في هذه المنشورة، وطريقة عرض المواد الواردة فيها، لا تعبِّر عن رأي الأمانة العامة لمنظمة الصحة العالمية بشأن الوضع القانوني لأي بلد، أو إقليم، أو مدينة، أو منطقة، أو لسلطات أي منها، أو بشأن تحديد حدودها أو تخومها. وتشكِّل الخطوط المنقوطة على الخرائط خطوطاً حدودية تقريبية قد لا يوجد بعد اتفاق كامل عليها.

كما أن ذكر شركات بعينها أو منتجات جهات صانعة معيَّنة لا يعني أن هذه الشركات والمنتجات معتمدة، أو مُوصَى بها من قِبَل منظمة الصحة العالمية، تفضيلاً لها على سواها مما يماثلها ولم يَرِد ذكره. وفيما عدا الخطأ والسهو، تميِّز أسماء المنتجات المسجَّلة الملكية بوضع خط تحتها.

يمكن الحصول على منشورات منظمة الصحة العالمية من وحدة التسويق والتوزيع، المكتب الإقليمي لمنظمة الصحة العالمية لشرق المتوسط، ص. ب. (7608)، مدينة نصر، القاهرة 11371، مصر (هاتف رقم: 2535 670 202+؛ فاكس رقم: 2492 670 202+؛ عنوان البريد الإلكتروني: DSA@emro.who.int). وينبغي توجيه طلبات الحصول على الإذن باستنساخ أو ترجمة منشورات المكتب الإقليمي لمنظمة الصحة العالمية لشرق المتوسط، سواء كان ذلك لبيعها أو لتوزيعها توزيعاً غير تجاري إلى المستشار الإقليمي للإعلام الصحي والطبي، على العنوان المذكور أعلاه (فاكس رقم: 5400 276 202+؛ عنوان البريد الإلكتروني: HBI@emro.who.int).

[illegible]


VII ........................................ تقديم
IX ........................................ [illegible]
XIII ........................................ [illegible]
XVII ........................................ [illegible]
XXI ........................................ [illegible]


[illegible]


3 ........................................ [illegible]
8 ........................................ [illegible]
20 ........................................ [illegible]
30 ........................................ [illegible]
41 ........................................ [illegible]
58 ........................................ [illegible]
99 ........................................ [illegible]
115 ........................................ [illegible]
121 ........................................ [illegible]
129 ........................................ [illegible]
133 ........................................ [illegible]
149 ........................................ [illegible]
155 ........................................ [illegible]
161 ........................................ [illegible]
177 ........................................ [illegible]
184 ........................................ [illegible]
200 ........................................ [illegible]

208 ........

215 ........

220 ........

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273 ........

282 ........

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413 ........

419 ........

431 ........

**457** ........................................ [illegible]

459 ........................................ [illegible]

462 ........................................ [illegible]

470 ........................................ [illegible]

477 ........................................ [illegible]

485 ........................................ [illegible]

493 ........................................ [illegible]

502 ........................................ [illegible]

513 ........................................ [illegible]

522 ........................................ [illegible]

526 ........................................ [illegible]

530 ........................................ [illegible]

532 ........................................ [illegible]

538 ........................................ [illegible]


[illegible]

[illegible]

*[illegible]*

**1. الجدول**


1: [illegible] 1977 –1988 ........................................ 45

2- [illegible] 1980-1971 . 320

3- [illegible] 1985-1981 ........ 357

4- [illegible] 1977-1967 . 408

[illegible]


1. [illegible] ..... 25
2. [illegible] ..... 36
3. [illegible] 1960-1980 ..... 43
4. [illegible] 1967 – 1981 ..... 44
5. [illegible] ..... 78
6. [illegible] ..... 80
7. [illegible] ..... 81
8. [illegible] ..... 104
9. [illegible] ..... 111
10. [illegible] ..... 193
11. [illegible] ..... 218
12. [illegible] ..... 246
13. [illegible] ..... 288
14. [illegible] ..... 319
15. [illegible] ..... 326
16. [illegible] ..... 338
17. [illegible] ..... 367
18. [illegible] ..... 417
19. [illegible] ..... 426
20. [illegible] ..... 449

بسم الله الرحمن الرحيم

# تقديم

الدكتور حسين عبد الرزاق الجزائري
المدير الإقليمي لمنظمة الصحة العالمية لشرق المتوسط

شهدت العقود الأخيرة ازدياد أهمية الأمراض الحيوانية المصدر والتي يشترك في المعاناة من ويلاتها الناس والحيوانات معاً، إلى جانب ازدياد وتعقيد وسائل المواصلات، وهو أمر أدَّى في مقابل ذلك إلى تسريع وتسهيل نشر العوامل الناقلة للأمراض، وإلى تضاؤل دور التباعُد في المسافات، فلم يَعُدْ بمقدور أي فرد أو مجموعة أن يكون بمأمن عن الإصابة بهذه الأمراض، ورغم قطع خطوات كبيرة على درب التقدُّم العلمي والتكنولوجي في تشخيص وتصنيف هذه الأمراض، ورغم الإنجازات الكبيرة التي تحقَّقت في مضمار المعالجة والوقاية منها، فإن هذه الأمراض لاتزال تشكِّل تهديداً خطيراً للصحة في العالم. وقد قام الزملاء في المكتب الإقليمي الأمريكي للصحة العالمية بإعداد هذا السفر حول الأمراض الحيوانية المصدر في ثلاثة أجزاء متكاملة، فلم نتردَّد في نقل فوائد هذا الجهد إلى بلداننا، بترجمته إلى اللغة العربية، وقد ساعدنا المركز العربي للتعريب والترجمة والتأليف والنشر في تحقيق ذلك، وهو أحد المراكز المتخصِّصة لجامعة الدول العربية، ويعمل من مقره في دمشق على توفير المواد التعليمية والتدريبية باللغة العربية للمؤسسات الأكاديمية والمهنية وللجامعات العربية، فجاءت الترجمة مثالاً على الاجتهاد في وضع تسميات جديدة باللغة العربية لكائنات لم تكن قد عرفت لها تسميات من قبل، وفي ذلك من التحدِّي ما يدفعنا للإشادة بالعاملين الصامتين الذين ساهموا في إنجاز هذا العمل، ولا يفوتنا أن نؤكِّد على أن نجاح هذه الجهود ينبغي أن يترجم في حيِّز التطبيق بالاستفادة من مضمون هذا الكتاب ووضعه موضع التطبيق العملي، وتحديثه ونشر ما حفل به من معلومات على أوسع نطاق، وفي الختام، يرحِّب المكتب الإقليمي بتلقِّي أي ملاحظات لاستكمال خصوصية البلدان العربية ولغتها في هذا الصدد.

والله الحق وهو يهدي على السبيل القويم.

الدكتور حسين عبد الرزاق الجزائري
المدير الإقليمي لمنظمة الصحة العالمية
لشرق المتوسط

[illegible]

[illegible]

[illegible] -(PAHO) [illegible]

gÆǵζŸö ӯÅĦöä 8ÆTä ·ĜÅÀÛŒĜöä ĞŋÅĦöä ĞĦÔöä gÆǵş ŏÅÎφüæ ¯ ӯÅ3 ĜÅŋ ȸŋ ÀǰÕǰ ƙQŒÒÅÀŋǰä Ƀåüǩ ǰŋäÀæş ğÅèÅŒè ĻŒÕǩş ĘŒĜÛǩş ÀÅζÛQæ ĜŧŢÅţä Ž ŏÅŘ3ǰä ğÅŋζÒǵ 3ŋ ĜŽÅÊţä ζĿ ÅŢQĦζÅÒŋş øÆÔţä ĜŒφäζŒΣä ôäÀŋǰä ȸŋ ĜÅęζöä Ƀǖş ÛŏäØ8öä ƙÔOş safety Ĝŧφζŋüŋ Ƀǖ ·ӯÆÕöäş ĻÅöä ŏäå ÅŢÅŒæ ȸŋş ÛÅŢÅŋ ÒŸÅQöäş

ĞŋÅĦöä ĞĦÔöä gÆǵş Ž ȷÅÔÔÅQŋ ȷÅŒŧŒŸęǖ ȷäÅõÅŋ ōÅÅĿ Û8ÆTä äØĿ ŌDZǖ ȸŋş ÅÒÅÀŋǖ ӯζŧ3 Ž ӯÆÕöäş ĻÅöä ŏäå ÂõÅŋ ·ÅŽ ÅÒÅÀŋǖ ӯζŧĦö ĞĦÔöä ĜŧŢÅţ ȷÅĦæÅǩ ĜÅÀÛŒĜöä ӯζŧ3 ÆŢĦŋş ÛÕÅàäƎöä Ž şƘφÅDZ Ƀå ζÅø Ž 1951 ӯÅ3 ùÎφǖ ɃØöäş Û(PANAFTOSA) Ǝŧζζφ 15 Ž ùÎφǖ ɃØöä (INPPAZ) øÆÔţä ĜŒφäζŒΣä ôäÀŋǰäş ŏäØ8öä ƙÔĦQö ÅÒÅÀŋǖ ӯζŧĦö øÆÔţä ĜŒφäζŒΣä ôäÀŋǰä ÂõÅŋ ȷÅõ ¢ŸĜęş ÛƙQÅDZøǰä Ž ÈÅÀǓ ÈφζŒæ Ž 1991 ȷäÆŸæ gÆ3ÅÊţ ƙQÅDZøǰä ĞŋζÒǵ 3ŋ ĻĿÅÅǩ ʔŸ3 ŏÅÅæ ùÎφǖ ɃØöäş Û(CEPANZO) ÅÒÅÀŋǖ Ƀǖ 1956 ӯÅ3 ȸŋ ¢ŋÅŢŋ âøÅŋ Æęş ÛøÆÔţä ĜŒφäζŒΣä ôäÀŋǰä ȸŋ ÒŸÅQöä Ž ƙQŒÒÅÀŋǰä .1990 ӯÅ3

ĜŒφşÅĦQöä ğÅùÅÎÅöä ZŸQƯ Ž 1902 ÅŢÊŒèüǩ ØÅŋ ÅÒÅÀŋǖ ӯζŧĦö ĞĦÔöä ĜŧŢÅŋ ǨŽÅè øÆÔţä ĜŒφäζŒΣä ôäÀŋǰä ÆòÅQæ ĜęŸ3 ÅT ɄøQöä ŌŸǩ ÅŢÅŒæ ȸŋş ÛȷäÆŸĜöä 3ŋ ĜŒÅÕQöä ɄøQöäş ÛÅŢQĦζÅÒŋş ÅŢÅŋ ĜÅęζöäş ğÅφäζŒΣäş ȷÅÊφqä ƙæ ĜõÅQÎţä ĜÅøÅÊöä ôäÀŋǰäş ǨŽÅè ·ÀQüQöä ĞĦÅÀÊöä ÀĿÅŧƨä Ž ğÅŒζζöäş ÂDzĦöäş Ĝȓ äÀţä ȸŋ ĞĦÅǨÅŋ ğɼÆĦŋ ÆĜÊǩ 3ŒDzÎǩ òŸǹ ȸŋ ĞŋÅĦöä ĞĦÔöäş ɄəÅęζöä ÆÛöä ÂÅÅĦǩ Ž ÅÒÅÀŋǖ ӯζŧĦö ĞĦÔöä ĜŧŢÅŋ äØĿ ʔŸ3 òÅǰţäş ·ĜŒĦÔöä ĜÅÅ3Åöäş ϙÅƜǰäş ĻŒŸĦQöä ÂõäÀŋ Ž ɃÀÛŒĜöä ɄĦÔöä ZŒÕǰQöä ÛĜÅÂŒŸÒφqäş ĜŒφÅĜèqä ÛƙQÕæÅÊöä ƙQĦĜÛöä ÅŢÅŒæ ȸŋş Ûğ Å3ζĜÛŋ gÆ3 ƘŘƠ ζĿ ÆŢƨä

*·ğÅφäζŒΣäş ȷÅÊφqä ƙæ ĜõÅQÎţä ĜÅøÅÊöä ôäÀŋǰäş øÆÔţä ĜŒφäζŒΣä ôäÀŋǰä* âÅQÒö ƙQŒÒÅÀŋǰä ȷäÆŸæ ȷǖ ÅŧÕ Û1986 gƘǹǰä ĞǨĜÛöä Ğ3Åĝù ØÅŋ ĜŒŧŸĦöä ĜζÅĦţä ǨŋÆÕǩ ĜŒφäζŒΣä ʔşäÆĦöä òÅÕQφä ʔŸ3 ÀQǖ ɃØöäş ÛgƘǹǰä ğäζÅÊöä Ž Ʉìäζţä ǯÅQφq ÅŢÛÛǹ ǨöÆ3 ǨŋÆǰ ·ğɼÆĜQöä ȻØĿ ĞĦæÅQţ ĞöşÅŢ ɄĿ ȻØĿ ĞǰöÅǰöä ĞĦĜÛöä Ğ3Åĝù ȷǖ ·ÅĿøÅÎQφäş øÆÔţä Ûğ äøÅÛÅöäş ĜŒŋζQÅƨä ôäÀŋǰä ʔŸ3 òşǰä ŏÅƨä Ƀζ3 ·ŏäÅDZǖ ĜQŸQ Ž ĞǰöÅǰöä ĞǨĜÛöä ŏÅƨä Ƀζ3ş Ûğ ÅèşƘÅöäş ğ ÅŒÊQÒÅÀöäş ğ äÀQÆQţä ôäÀŋǖ ʔŸ3 ɄøφÅǰöä ŏÅƨä Ƀζ3ş

[illegible] emerging [illegible] reemerging [illegible]

[illegible]

MIRTA ROSES PERIAGO [illegible]

[illegible]

[illegible] zoonoses [illegible]

[illegible] 150 [illegible]

[illegible]

[illegible] monographs [illegible]

[illegible]

[illegible] exotic [illegible]

[illegible]

[illegible]

[illegible]

.metazooses [illegible]

[illegible]

*PEDRO N.ACHA* [illegible]

*BORIS SZYFRES* [illegible]

[illegible] versions [illegible]

[illegible] [28] [illegible] [148] [illegible]

[illegible]

[illegible] models [illegible] Rickettsia prowazekii [illegible] 1922 [illegible] kuru [illegible] scrapie [illegible] pandemics [illegible]

[illegible] Lyme [illegible] 1982 [illegible] 1977

[illegible] Borrelia burgdorferi [illegible] Rocio [illegible] Oropouche [illegible] Rift Valley [illegible] Cryptosporidium [illegible]

[illegible] 1986 [illegible] 1983 [illegible] pseudorabies [illegible] 1986 [illegible] 51 [illegible] Ehrlichia canis [illegible]

[illegible] monographs [illegible]

[illegible] (PAHEF) [illegible]

[illegible]

*PEDRO N.ACHA* [illegible]

*BORIS SZYFRES* [illegible]

## ħøƏøƯŊøƗ

ȷǺÊφɋ ƙǣ ǦõÀǪÎţ ôǟÀɳɉǟş øǼÔţ ǦǢφǟɀƩǟ ôǟÀɳɉǟ ȡɳ ǥǼǼƨǟ ǦȞǦÛǒǟ ȻØŁ ǨȞǦù ğǟÀǫǼǪţ ôǟÀɳǕ (2) Ûğǟø ÀÛÀǒǟş ǦǢɳɀǫÀƨǟ ôǟÀɳɉǟ (1) ̇ǒǟÂDZǕ ǦǫŸǫ Ž ğÀφǟɀƩǟş ȡɳ ɭÊę Ǭõ Ęɀǟɀ ǪǺ ·ǦǢŸǢÀÛǒǟ ôǟÀɳɉǟ (3) ÛğÀèşƘÀǒǟ ôǟÀɳǕş ğǺÊǪǑÀÀǒǟ ôǟÀɳǕş ğǟÀǫǼǪţ ǨȞr̀ş Ǽęş ǕɄDZɀǒɀǢǦǒǟ ƸǢÀÔǪǒǟ Ž ǦǢǦǦÊǒǟ ǬɳǟɀȞǒǟ ƷȓɀɳƷɳ ǦÊȶȴǟ ӯÀÊęɉǟ ɄəÀǦÀǒǕ ǼǢƘÀǪǣ ɭÊę Ǭõ Ž ôǟÀɳɉǟ ǨǦφ øşǻ ǦǢŸȶƷ ȣǟǼŁɉ ȐȞǣ ƷɳğǺÊǪǑÀÀǒǟş

ôǟÀɳɉǟ ǒÀƧǕ ğÀɀǻǟÀǪɳ ȡȶȒǪǺ ɄəÀǦÀǒǕ âÀƮɀ ǼDZɀÀ ÀȶÕ ÙøÀǬǒǟ ʔŸƷ ǬȞǦǒǟ ǬǢƮÊǪǒ

·ǦǢǦǦÊǒǟ ǬɳǟɀȞǒǟş

ğŸǑÎţǟş ôǟÀɳɊǒ ɄəÀÔǵɋǟ ƃşǼǒǟ ƸǢÀÔǪǒǟ ÆÊǵ ôǟÀɳɉǟ ǒÀƧǕş ӯÀęøǕ ǨȞr̀ş ɼǕ ǕǦȞǦÛǒǟ ȻØŁ Ž ôÀɳ Ǭõ ȷǟɀƷ ǨƠ ICD 10 ǥÀ̀ıÀȞǒǟ ǦDZǟÀǹɋǟ Ž Àǒ ǦÛǦǨÀţǟ ǦǢȞÔǒǟ ÙÛǺţ ȡȶr̀ ÀƮÀǢÀÔǨ ǼȞÔǒǟ ȡɳş ÛƸǢÀÔǪǒǟ ǟØŁ Ž Ǧǒɀȶ Îɳ Ƙȡ ôǟÀɳɉǟ ȐȞǣ ȷǕ

·ƃÀƩǟ

ÛğǺǦǦÊǒǟ ÛğÀɀǻǟÀţ ̇ǦǢǒÀǪǒǟ ȡǺşÀÀȞǒǟ ǨƠ ʔşǼƷ şǕ ôÀɳ Ǭõ âøǻ Ǭǒǣ ƃǕ ǦɀÀr̀Ǖ øǼÔɳ ÛğÀφǟɀƩǟş ȷǺÊφɋǟ Ž ôÀţ ÛğÀφǟɀƩǟş ȷǺÊφɋǟ Ž ǫşǼƩǟ ÛŽǟÀȣƨǟ ţàɀǪǒǟ ǦƨÀȞɳ ·ǦȞɀÀǑţ ÛÒǢǺÎǪǒǟ Ûô Àţǟ ğÀǢəÀǣş Ž ğÀφǟɀƩǟ øşǻ ÛǒÀǬǪφɼǟ àÀùş ʔşǼȞǒǟ ƃǕ Ƙı̀Ǖ ̇Ǭõ ʔŸƷş Ûâ ÀǪǑǒǟ ǟØŁ ȣǟǼŁǕ ǯøÀǹ (ʔÀǹɉǟ ţǟɀφɉǟş ȷǺÊφɋǟ) ȐÀÀţǟ

·ǒÀǬƘŸǒ ǦŸǣÀę ȷɀǑǨ ÀɳǼÀƷ ǦǒÀǹş ôǟÀɳɉǟ ȡɳ ƘǯǑŸǒ ǦŸȒÀţǟ ğÀƨÀȞţǟ

ÛǼǦÀ ȷǕ ÙøÀǬŸǒ ȡǑɕ ǬǒØǣş Û(ǦǢÀǢǦǒǟ) ǦDZɀǒɀǑÀɋǟş ǦǢəÀǣɀǒǟ ȻDZşɊǒ ı Àǹ ȻÀǦǪφǟ ƘƷǕ àÀÛǒ ǦǢȞǢr̀ɀǨ ǟøɀǒ ƷǢr̀ǟɀţǟ ȐȞǣ ǨÀȶȒǨ ·ôÀţǟ şǕ ʔşǼȞŸǒ ǥǻǼǂǟ ǬɳǟɀȞǒǟ ɭƮÀǪǣ ÀȶÕ ÛǦȞǢǦÛǒǟ Ž ʔşǼȞǒǟ ʔŸƷ ŞɀÀƠ ɣǒǟ ğÀφǟɀƩǟ ÀƮŢǨ ǬǢɯ ÛƑǦÊǒǟ ǬɳÀȞǒǟ ǑÀǬǪφǟ øÀÎǪφɼǟ şǕ ŽǟÀȣƨǟ ţàɀǪǒǟ ȡƷ ǦǢɀÀr̀Ǖ ğÀɳɀŸȞɳ Ƙɀɀǫǒ ğÀÛÛǺţǟş ǒşǟǼƨǟ ȐȞǣ ǨȞr̀ş

·ǦǢÀȞɳ øǼÔţǟ ǦǢφǟɀǵ ôǟÀɳɉ

ǒɀǵ ğǺÛȞţǟş ÛğÀφǟɀƩǟş ȷǺÊφɋǟ Ž ʔşǼȞǒǟ ǫşǼǵ ǒɀǵ ğǺÛȞţǟ ǼƷÀÊǨ Ǽę

[illegible]

# الجزء الأول

# الأمراض الجرثومية

**ACTINOMYCOSIS**

**ICD-10 A42.9**

Actinostreptotrichosis

Ray Fungus disease

*Actinomyces israelii*

*A.bovis*

*meyeri* *odontolytical* *viscosus* *A.naeslundi*

*Arachnia propionica*

Brunner *et* (George, 1974)

(*al*., 1973)

(Burden, 1989)

100

12 368 (Burden, 1989)

0.665 (1968 – 1957)

(Wilson, 1984)

10

Valid

%50

%70

(Burden, 1989)

(Valicenti *et al.*, 1982)

%5.3

%1.6

[illegible] 478 [illegible] (Koebler *et al.*, 1983) [illegible] %12.6 [illegible] (Burden, 1989) [illegible]

[illegible]

[illegible]

[illegible]

[illegible] *A.suis* [illegible]

([illegible]) empyemas [illegible]
[illegible]
1982 [illegible]
.(Hardie and Barsanti, 1982)

[illegible] %40 [illegible] %48 [illegible] %30 [illegible]
.(Benenson, 1992) [illegible] %10 [illegible]

[illegible] (Lerner, 1991) [illegible] 1960 [illegible]

[illegible] actinobacillosis [illegible]

[illegible] (Cottral, 1978) [illegible] (12) [illegible]

[illegible]

[illegible]


Ajello, L., L.K. Georg, W. Kaplan, L. Kaufman. *Laboratory Manual for Medical Mycology*. Washington, D.C.: U.S. Government Printing Office; 1963. (Public Health Service Publication 994).

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Brunner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals*. 6th ed. Ithaca: Comstock; 1973.

Burden P. Actinomycosis [editorial]. *J Infect* 19:95–99, 1989.

Cottral, G.E., ed. *Manual of Standardized Methods for Veterinary Microbiology*. Ithaca: Comstock; 1978.

Dalling, T., A. Robertson, eds. *International Encyclopaedia of Veterinary Medicine*. Edinburgh: Green; 1966.

Georg, L.K. The agents of human actinomycosis. Cited in: Lerner, P.L. *Actinomyces* and *Arachnia* species. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Hardie, E.M., J.A. Barsanti. Treatment of canine actinomycosis. *J Am Vet Assoc* 180:537–541, 1982.

Koebler, C., A. Chatwani, R. Schwartz. Actinomycosis infection associated with intrauterine contraceptive devices. *Am J Obstet Gynecol* 145:596–599, 1983.

Lerner, P.L. *Actinomyces* and *Arachnia* species. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Pier, A.C. The actinomycetes. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Valicenti, J.F., Jr., A.A. Pappas, C.D. Graber, H.O. Williamson, N.F. Willis. Detection and prevalence of IUD-associated *Actinomyces* colonization and related morbidity. A prospective study of 69,925 cervical smears. *JAMA* 247:1149–1152, 1982.

Wilson, G. Actinomycosis, actinobacillosis, and related diseases. *In*: Smith, G.R., ed. Vol 3: *Topley and Wilson's Principles of Bacteriology, Virology and Immunity*. Baltimore: Williams & Wilkins; 1984.

## AEROMONIASIS [illegible]

[illegible]
**ICD 10 A05.8 other specified bacterial foodborne intoxications**

*Vibrionaceae* [illegible] *Aeromonas* [illegible] .*Aeromonadaceae* [illegible] pathogen [illegible] *A.salmonicida* [illegible] °37 [illegible] 3-1 [illegible] *A.cavae* [illegible] *A.sorbia* [illegible] *A.hydrophila* [illegible] (Janda and Duffey, 1988) ([illegible]) [illegible] .*A.schubertii* [illegible] *A.veronii* [illegible] .*A.trota.* [illegible] *A.jandaei* [illegible]

[illegible] 13 [illegible] %95 [illegible] .(Janda, 1991) [illegible]

[illegible] (O) [illegible] 40 [illegible] (R) [illegible] O [illegible]

(Sakazaki and [illegible] R [illegible] ·Shimada, 1984) [illegible] .(Von Graevenitz and Altwegg, 1991) [illegible] S [illegible] 10000 [illegible] 1000 [illegible] S [illegible]

[illegible] 0.06 [illegible] %20 [illegible] %5 [illegible] .(Janda, 1991) [illegible]

[illegible] (Janda, 1991) [illegible]

0.05

.(Nieto *et al.*, 1991)

4 9 11 7 10 x 3

.(Mateos *et al.*, 1993) °28 °37

.(Stelma, 1989)

472 1982 1983 1982

7 28 23 %70

.(Abeyta *et al.*, 1986)

.(Stelma, 1989)

.(Stoskopf, 1993)

.(Notario *et al.*, 1993)

400 (%2) 8

230

%1.1

.(Agger *et al.*, 1985)

5 6

[illegible] .(Janda and Duffey, 1988) [illegible]

[illegible]

*Hirudo* [illegible] 20 [illegible] (*medicinalis* [illegible] .(Lineaweaver *et al.*, 1992) [illegible]

[illegible] .(Janda and Duffey, 1988) [illegible]

[illegible]

(Gutierrez *et al.*, 1993)

(Stoskopf, 1993)

(*Cyprinus Carpio*)

(Sioutas *et al.*, 1991)

(*Rhamdia Sopa*)

(Angelini and Seigneur, 1988)

(*Mugil Cephalus*)

[illegible] .(Soliman *et al.*, 1989) [illegible]

[illegible] (*Rana Cetesbeiana*) [illegible] 4 [illegible] .1972 و 1971 [illegible]

[illegible] %20 [illegible] %70 [illegible]

[illegible] %10 [illegible]

[illegible] 24 [illegible] Operculum [illegible] 6 [illegible]

[illegible] .(Glorioso *et al.*, 1974) [illegible]

[illegible] (*Xenipus leavis* [illegible] (*Pipidae* [illegible] 3 [illegible] 48 [illegible] (22°[illegible] [illegible] 50 [illegible] 14 [illegible] .(Bravo Farinas *et al.*, 1989)

[illegible]

[illegible] 10000 [illegible] %80 [illegible] (Rafidah *et al.*, 1990) [illegible]

[illegible] (Jacobson, 1984) [illegible] %10 [illegible] Caracal [illegible] (*Felis caracal* [illegible]) [illegible] (Ochilo and Spencer, 1989) [illegible] (Hiruma *et al.*, [illegible] 3 [illegible] 1986) [illegible] (Love and Love, 1984) [illegible] 16 [illegible] 3 [illegible] %1 [illegible] %10 [illegible] toucan [illegible] (Shane *et al.*, [illegible] 15 [illegible]

[illegible] .1984) [illegible] (Garcia *et al.*, 1992) [illegible] (*Amazona versicolor* [illegible]

[illegible] 12 [illegible] .(Picard and Goullet, 1987)

[illegible] 20 [illegible] 2000 [illegible] 100/ [illegible] .(Van der Looij, 1988) [illegible] 100/ [illegible] (Altweeg *et al.*, 1991) [illegible]

[illegible] (Pathak *et al.*, 1988) [illegible]

[illegible]

[illegible] 38 [illegible]

.(Altwegg *et al.*, 1991) [illegible]

[illegible] 5 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] (Plumb 1984. Lamers *et al.,* 1985. Ruangpan *et al.*, 1986)

[illegible]


Abeyta, C., C.A. Kaysner, M.A. Wekell, *et al.* Recovery of *Aeromonas hydrophila* from oysters implicated in an outbreak of foodborne illness. *J Food Protect* 49:643–644, 1986.

Agger, W.A., J.D. McCormick, M.J. Gurwith. Clinical and microbiological features of *Aeromonas hydrophila* associated diarrhea. *J Clin Microbiol* 21:909–913, 1985.

Altwegg, M., G. Martinetti Lucchini, J. Lüthy-Hottenstein, M. Rohr-Bach. *Aeromonas*-associated gastroenteritis after consumption of contaminated shrimp. *Europ J Clin Microbiol Infect Dis* 10:44–45, 1991.

Angelini, N.M., G.N. Seigneur. Enfermedad de las aletas de *Rhamdia sapo*. Aislamiento de los agentes etiológicos e infección experimental. *Rev Argent Microbiol* 20:37–48, 1988.

Bravo Fariñas, L., R.J. Monté Boada, R. Cuellar Pérez, S.C. Dumas Valdiviezo. *Aeromonas hydrophila*, infección en *Xenopus leavis*. *Rev Cubana Med Trop* 41:208–213, 1989.

García, M.E., A. Domenech, L. Dominguez, *et al.* *Aeromonas hydrophila* in a pet parrot (*Amazona versicolor*). *Avian Dis* 36:1110–1111, 1992.

García-López, M.L., A. Otero, M.C. García-Fernández, J.A. Santos. Incidencia, comportamiento y control de *Aeromonas hydrophila* en productos cárnicos y lácteos. *Microbiologia* 9:49–56, 1993.

Glorioso, J.C., R.L. Amborski, G.F. Amborski, D.D. Culley. Microbiological studies on septicemic bullfrogs (*Rana catesbeiana*). *Am J Vet Res* 35:1241–1245, 1974.

Gutiérrez, J., M.C. Nogales, M.C. Aretio, E. Martín. Patrón de sensibilidad de las *Aeromonas* spp. productoras de infecciones extraintestinales. *An Med Interna* 10:65–67, 1993.

Hiruma, M., K. Ike, T. Kume. Focal hepatic necrosis in young ferrets infected with *Aeromonas* spp. *Jpn J Vet Sci* 48:159–162, 1986.

Jacobson, E.R. Biology and diseases of reptiles. *In*: Fox, J.G., B.J. Cohen, F.M. Loew, eds. *Laboratory Animal Medicine*. Orlando: Academic Press; 1984.

Janda, J.M. Recent advances in the study of taxonomy, pathogenicity, and infectious syndromes associated with the genus *Aeromonas*. *Clin Microbiol Rev* 4:397–410, 1991.

Janda, J.M., P.S. Duffey. Mesophilic aeromonads in human disease: Current taxonomy, laboratory identification, and infectious disease spectrum. *Rev Infect Dis* 10:980–997, 1988.

Lamers, C.H., M.J. De Haas, W.B. Muiswinkel. Humoral response and memory formation in carp after infection of *Aeromonas hydrophila* bacterin. *Dev Comp Immunol* 9:65–75, 1985.

Lineaweaver, W.C., M.K. Hill, G.M. Buncke, *et al*. *Aeromonas hydrophila* infections following use of medicinal leeches in replantation and flap surgery. *Ann Plast Surg* 29:238–244, 1992.

Love, R.J., D.N. Love. *Aeromonas hydrophila* isolated from polyarthritis in a calf. *Aust Vet J* 61:65, 1984.

Mateos, O., J. Anguita, G. Navarro, C. Paniagua. Influence of growth temperature on the production of extracellular virulence factors and pathogenicity of environmental and human strains of *Aeromonas hydrophila*. *J Appl Bacteriol* 74:111–118, 1993.

Nieto, T.P., Y. Santos, L.A. Rodríguez, A.E. Ellis. An extracellular acetylcholinesterase produced by *Aeromonas hydrophila* is a major toxin for fish. *Microbiol Pathogenesis* 11:101–110, 1991.

Notario, R., E. Careno, N. Borda, *et al*. *Aeromonas* spp. en niños con síndrome diarreico agudo. *Infect Microbiol Clin* 5:85–89, 1993.

Ocholi, R.A., T.H. Spencer. Isolation of *Aeromonas hydrophila* from a captive caracal lynx (*Felis caracal*). *J Wildl Dis* 25:122–123, 1989.

Pathak, S.P., J.W. Bhattache, N. Kalra, S. Chandra. Seasonal distribution of *Aeromonas hydrophila* in river water and isolation from river fish. *J Appl Bacteriol* 65:347–352, 1988.

Picard, B., Goullet P. Epidemiological complexity of hospital aeromonas infections revealed by electrophoretic typing of esterases. *Epidemiol Infect* 98:5–14, 1987.

Plumb, J.A. Immunisation des poissons d'eau chaude contre cinq agents pathogenes impartants. Symposium sur la vaccination des poissons. Paris, Office Internationale des Epizooties (OIE), 20–22 février 1984.

Rafidah, J., B.L. Ong, S. Saroja. Outbreak of "red leg"—An *Aeromonas hydrophila* infection in frogs. *J Vet Malaysia* 2:139–142, 1990.

Ruangpan, L., I. Kitao, I. Yoshida. Protective efficacy of *Aeromonas hydrophila* vaccines in nile tilapia. *Vet Immunol Immunopathol* 12:345–350, 1986.

Sakazaki, R., T. Shimada. O-serogrouping scheme for mesophilic *Aeromonas* strains. *Jpn J Med Sci Biol* 37:247–255, 1984.

Shane, S.M., K.S. Harrington, M.S. Montrose, R.G. Roebuck. The occurrence of *Aeromonas hydrophila* in avian diagnostic subemissions. *Avian Dis* 28:804–807, 1984.

Sioutas, S., R.W. Hoffmann, C. Pfeil-Putzien, T. Scherl. Carp erythrodermatitis (CE) due to an *Aeromonas hydrophila* infection. *J Vet Med B* 38:186–194, 1991.

Soliman, M.K., M. el S. Easa, M. Faisal, *et al.* Motile *Aeromonas* infection of striped (grey) mullet, *Mugil cephalus*. *Antonie Van Leeuwenhoek* 56:323–335, 1989.

Stelma, G.N. *Aeromonas hydrophila*. *In*: Doyle, M.T., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Stoskopf, M.K. Bacterial diseases of goldfish, koi and carp. *In*: Stoskopf, M.K., ed. *Fish Medicine*. Philadelphia: W.B. Saunders; 1993.

Van der Kooij, D. Properties of aeromonads and their occurrence and hygienic significance in drinking water. *Zbl Bakteriol Mikrobiol Hyg* 187B:1–17, 1988.

Von Graevenitz, A., M. Altwegg. *Aeromonas* and *Plesiomonas*. *In*: Balows, A., K.L. Herrmann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

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## [illegible]
## ANIMAL ERYSIPELAS AND HUMAN ERYSIPELOID

**ICD 10 A26.0 cutaneous erysipeloid** [illegible]

[illegible] erysipelotrichosis

(*Erysipelothrix* [illegible] *rhusiopathiae insidiosa*) [illegible] 2.5 – 0.6 [illegible] rugose [illegible] (Jones, 1986) [illegible] 15 [illegible] 5 [illegible] (2b Norrung [illegible] 2a [illegible] 1b [illegible] 1a [illegible] (23 [illegible] 1 [illegible]) 23 [illegible] 1987 [illegible] .(Norrung and Molin, 1991) [illegible] 26 [illegible] 1991 [illegible] *et al.*, 1987) [illegible]

[illegible] *E.tonsillarum* [illegible]

.(Takahashi *et al*., 1987)

18، 13

.(Takahashi, 1992)

154، 13 1958 - 1956 3000

1970 1961 15 1959

.(Skoknic *et al*., 1981)

[illegible] [4-2] [illegible] 49 [illegible] (McClain, 1991) [illegible] (Gorby and Peacock, 1988) [illegible] 15 [illegible] %40 [illegible] %40 [illegible] %38 [illegible] %17 [illegible] (%24) [illegible] (%36) [illegible] (%92) [illegible] 500 [illegible] 1955 [illegible] 1989 [illegible] (McClain, 1991) [illegible]

[illegible]

[illegible] (Timoney *et al*., 1988) [illegible]

[illegible] (Blood and Radostatis 1989 ، Timoney *et al*., 1988) [illegible]

[illegible] 2 [illegible] (1b، 1a [illegible]) 1 [illegible] 2 [illegible] 1a [illegible] 300 [illegible] 2، 1 [illegible] 2 [illegible] 1b [illegible] 1a [illegible]

[illegible] %9.7 [illegible] 1a [illegible] (...) N 21 11 8 6 5 3 : [illegible] %6.7 [illegible]

[illegible] 1a [illegible] (Takahashi, 1987) [illegible]

[illegible]

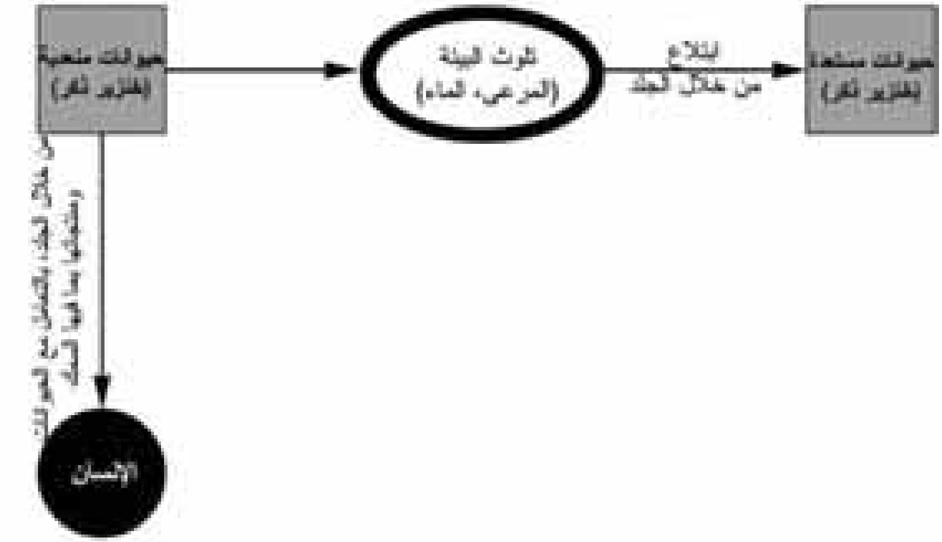
[illegible] %0.03 [illegible] 1b [illegible] (Eamens *et al.*, 1988) [illegible] 2 1a

[illegible] (Griffiths *et al.*, 1991) [illegible]

[illegible]

˙ôäÅʒƭä ȸŧȒǪǩ ·ǦæÅòǗ ÅǯǑƭä ζȽ ɄɳşÅöä ȮÅÆöä ·ǦÅƎöäş ǦÅDZäÆöä øζĒÛöä ÆÅʒ ţäζφƭä
øζǑØöä ǦæÅòq ôÅţä ǑĒς ·ÅŧŢ ĒφäζDZøǗ ɳøζǪɳ ζÅʒş àäøÂöäş òÅɎèqäş ÿÅĦöä ÆĦǪöä
Ȣ şÅφ ȸɳ ğÅζɇä Ȥöüǩ ·%25ş %2.5 ƙä dzşäÅǪÅ ȷǗ ğÅζζöä òÆĦţ ȸǑς · îÅǹ ǑȮÎä
ʒɳ ǕǦŸòζΣäş ɁĦţäş ǦĒŸǑţä ǦĒÎȡƭäş ǦĒşÅÊöäş ǦÅøÆÔöä ğŸȒĦöä Ž ğäƎǵş ǦĦèäş
¢ĒǦÌ ÅəÅü) ǯøÆǪöäş ǕǦöäş ǯÅDZÆöä Ž ǦöÅÎǪɳ ğÅζɇäş ôäÅʒƭä ·òÅĦɄÛöäş ÆǦǑöä ȴÅȒǩ
·(ǑÅζü ǑÅæ ¢ǒ ǑDzΣÅä

ǑȮÎöä 1: ǦÅÅÎǦöä ĝÅŧΣä ¢ĒǦÌ ş ǦĒφäζĒΣä ĝÅŧΣä (*ǦŸÅÅţä ǦĒφäÅŧΣä ǦÅĦÎöä*) äÅü òÅǑǪφɍä



*ǦÅĦÎöä* ĝÆÅÆʒ ǦĒφäζĒǵ ţäζφǗ Ƀşǘǩ :(1 ǑȮÎöä) òÅǑǪφɍä äÅüş Ɂ şÆĦöä øÆÔɳ
ȸɳ ɄøǦĒÊöä ǑɳÅĦöä åÅÅɫèä ·ÅÅäÅÅɩä ζȽ ɄÊĒəÅöä ţåζǪÊţä ȷǗ şÆǦÅ ·*ǦŸÅÅţä ǦĒφäÅŧΣä*
˙ɄŸĒÎǩ Ž ǨÅÅDZǗ ǦèäøǻǗ Žş ·ÅÅȽÅş ǦĦɄĦɄÔöä ÅÅäÅÅɩä ȸɳ %30 ȸɳ ÅǯǑǗ Ž ƙǩäζŸöä
(Skoknic *et al.*, ǸŸÊɳ Ž ÅÅÂøÅǹ 400 ȸɳ %53.5 ȸɳ ğäζŸöä ğÅÆʒ ȸɳ ǑɳÅĦöä åÅÅɫèä
ǨφÅǑ ǪĒǵ ǕǦæÅǪöä ȸɳ ǦÆʒ ȸɳ %25.6 ȸɳ *ǦŸÅÅţä ǦĒφäÅŧΣä ǦÅĦÎöä* ğåÅÅǪèä ·1981)
ǦŸȒÅţä ɄȽ ǦÅζŸǑöä ǦæÅǪöä ·(Wood and Harrington, 1978) ÅȽäÅæ ȸɳş ǕÌĒĦǩ ÅÅäÅÅɩä
ǦĦɄĦɄÔöä ÅÅäÅÅɩä ȸɳ ÆDZ ǦʒζÅǪɳ ǦĒŸǑɳ ȓÅÿǗ åÅÅǪÊǩ Æş ·ǑɳÅĦöä ÅĒǑǦö îÅǹ ǑȮÎä
ƘǦǑ ǑȮÎä ǦʒζÅɳ ǦĒŸǑţä ȓÅÿƭä ȒĦä ȷǗ ǦĒǦÅÅDzǪöä ğäøÅǪǹȓä Ž ȸȽÅæ Æşş ·ÅÅȽÅş

.(Takahashi, 1987)

40 ... 40 ... 9 ... 2 ... (de Diego and Lavalle, 1977)

.22 21

14 ... disseminators

112 ... (%33.9) ... 38

.(Shiono *et al.*, 1990)

.(Gilabert, 1968)

.(Timoney *et al.*, 1988)

[illegible] endemism [illegible]

[illegible]

[illegible] °35 [illegible] 7 .(Bile and Doyle, 1991) [illegible]

[illegible]

[illegible] .(Bercovich *et al.*, 1981) [illegible] .(Kirchhoff *et al.*, 1985) [illegible]

[illegible]

[illegible] (Timoney *et al.*, 1988) [illegible]

[illegible] (Bricker and Saif, 1983) [illegible]

[illegible]

Bercovich, Z., C.D. Weenk van Loon, C.W. Spek. Serological diagnosis of *Erysipelothrix rhusiopathiae*: A comparative study between the growth inhibition test and the complement fixation test. *Vet Quart* 3:19–24, 1981.

Bille, J., M.P. Doyle. *Listeria* and *Erysipelothrix*. *In*: Ballows, A., W.J. Hausler, Jr., K.L. Hermann, *et al. Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Blood, D.C., O-M. Radostits. *Veterinary Medicine*. 7th ed. London: Baillière Tindall; 1989.

Bricker, J.M., Y.M. Saif. Drinking water vaccination of turkeys, using live *Erysipelothrix rhusiopathiae*. *J Am Vet Med Assoc* 183:361–362, 1983.

de Castro, A.F.P., O. Campedelli Filho, C. Troise. Isolamento de *Erysipelothrix rhusiopathiae* de peixes marítimos. *Rev Inst Med Trop Sao Paulo* 9:169–171, 1967.

de Diego, A.I., S. Lavalle. *Erysipelothrix rhusiopathiae* en aguas y pescados de la costa atlántica de la provincia de Buenos Aires (Argentina). *Gac Vet* 39:672–677, 1977.

Eamens, G.J., M.J. Turner, R.E. Catt. Serotypes of *Erysipelothrix rhusiopathiae* in Australian pigs, small ruminants, poultry, and captive wild birds and animals. *Aust Vet J* 65:249–252, 1988.

Gilabert, B. Endocarditis bacteriana producida por *Erysipelothrix*. Primer caso humano verificado en Chile. *Bol Hosp San Juan de Dios* 15:390–392, 1968. Cited in: Skoknic, A., I. Díaz, S. Urcelay, R. Duarte, O. González. Estudio de la erisipela en Chile. *Arch Med Vet* 13:13–16, 1981.

Gledhill, A.W. Swine erysipelas. *In*: Stableforth, A.W., I.A. Galloway, eds. *Infectious Diseases of Animals*. London: Butterworths; 1959.

Gorby, G.L., J.E. Peacock, Jr. *Erysipelothrix rhusiopathiae* endocarditis: Microbiologic, epidemiologic, and clinical features of an occupational disease. *Rev Infect Dis* 10:317–325, 1988.

Griffiths, I.B., S.H. Done, S. Readman. *Erysipelothrix* pneumonia in sheep. *Vet Rec* 128:382–383, 1991.

Jones, D. Genus *Erysipelothrix*, Rosenbach 1909. *In*: Sneath, P.H., H.S. Mair, M.E. Sharpe, eds. Vol. 2: *Bergey's Manual of Systemic Bacteriology*. Baltimore: Williams & Wilkins; 1986.

Kirchhoff, H., H. Dubenkroop, G. Kerlen, *et al.* Application of the indirect enzyme immunoassay for the detection of antibodies against *Erysipelothrix rhusiopathiae*. *Vet Microbiol* 10:549–559, 1985.

Levine, N.D. Listeriosis, botulism, erysipelas, and goose influenza. *In*: Biester, H.E., L.H. Schwarte, eds. *Diseases of Poultry*. 4th ed. Ames: Iowa State University Press; 1959.

McClain, J.B. *Erysipelothrix rhusiopathiae In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Nelson, E. Five hundred cases of erysipeloid. *Rocky Mt Med J* 52:40–42, 1955. Cited in: Gorby, G.L., J.E. Peacock, Jr. *Erysipelothrix rhusiopathiae* endocarditis: Microbiologic, epidemiologic, and clinical features of an occupational disease. *Rev Infect Dis* 10:317–325, 1988.

Norrung, V., G. Molin. A new serotype of *Erysipelothrix rhusiopathiae* isolated from pig slurry. *Acta Vet Hung* 39:137–138, 1991.

Norrung, V., B. Munch, H.E. Larsen. Occurrence, isolation and serotyping of *Erysipelothrix rhusiopathiae* in cattle and pig slurry. *Acta Vet Scand* 28:9–14, 1987.

Rocha, M.P., P.R.S. Fontoura, S.N.B. Azevedo, A.M.V. Fontoura. *Erysipelothrix* endocarditis with previous cutaneous lesion: Report of a case and review of literature. *Rev Inst Med Trop Sao Paulo* 31:286–289, 1989.

Shiono, H., H. Hayashidani, K-I. Kaneko, *et al.* Occurrence of *Erysipelothrix rhusiopathiae* in retail raw pork. *J Food Protect* 53:856–858, 1990.

Shuman, R.D., R.L. Wood. Swine erysipelas. *In*: Dunne, H.W., ed. *Diseases of Swine*. 3rd ed. Ames: Iowa State University Press; 1970.

Skoknic, A., I. Díaz, S. Urcelay, R. Duarte, O. González. Estudio de la erisipela en Chile. *Arch Med Vet* 13:13–16, 1981.

Takahashi, T. Studies on serotypes, antibiotic resistance, and pathogenic characteristics of *Erysipelothrix rhusiopathiae*. *Bull Nipon Vet Zootechn College* 36:153–156, 1987.

Takahashi, T., T. Fujisawa, T. Benno, *et al. Erysipelothrix tonsillarum* sp. nov. isolated from tonsils of apparently healthy pigs. *Int J Syst Bacteriol* 37:166–169, 1987.

Takahashi, T., T. Fujisawa, Y. Tamura, *et al.* DNA relatedness among *Erysipelothrix rhusiopathiae* strains representing all twenty-three serovars and *Erysipelothrix tonsillarum*. *Int J Syst Bacteriol* 42:469–473, 1992.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

Wood, R.L. *Erysipelothrix infection*. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Wood, R.L., R. Harrington. Serotypes of *Erysipelothrix rhusiopathiae* isolated from swine and from soil and manure of swine pens in the United States. *Am J Vet Res* 39:1833–1840, 1978.

Wood, R.L., R. Harrington, D.R. Hubrich. Serotypes of previously unclassified isolates of *Erysipelothrix rhusiopathiae* from swine in the United States and Puerto Rico. *Am J Vet Res* 42:1248–1250, 1981.

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## ANTHRAX [illegible]

[illegible] **A22.1** [illegible] **ICD-10 A22.0**

[illegible] **A22.2**

**ICD-10 A22.0 cutaneous anthrax; A22.1 pulmonary anthrax;**

**A22.2 gastrointestinal anthrax**

[illegible] .Charbon [illegible] .Carbuncle [illegible]

[illegible] (*Bacillus anthracis* [illegible] 5-3 [illegible]

[illegible] (Little and Knudson, [illegible] .1986)

31 ... 1977 ... 1973 ... 1587 ... 500 ... (La Force, 1978)

... 1992 ... 30 ... (Okolo, 1985) ... 200 ... 8 ... (Ngampachjana *et al.*, 1989) ... 59 ... 6 ...

[illegible] 14 [illegible] (Abdenour *et al.*, 1987) [illegible] 178 [illegible] 1917 [illegible] 15000 [illegible] .(Marshall, 1991) 1985

[illegible] :1978 [illegible] (17, 5, 15) [illegible] 19 [illegible] 854 [illegible] 1957 [illegible] (16) [illegible] 254 [illegible] 237 [illegible]

[illegible] :1979 [illegible] 40 [illegible] 64 [illegible] 79 [illegible] 96 [illegible] (10) [illegible] 1975 [illegible] (1988) [illegible] (24) [illegible] 42 [illegible]

(%22.7) 34 150 %14.3 70 %42.9 35 15 8 43 .(13)

.(7)

%11 %54 10 1635 .1974 1966 .(4) 4 1987 (*Hippopotamus amphibius*) .(21) (*Loxodonta africana*) (*Syncerus caffer*)

[illegible]

[illegible]

[illegible]

[illegible]

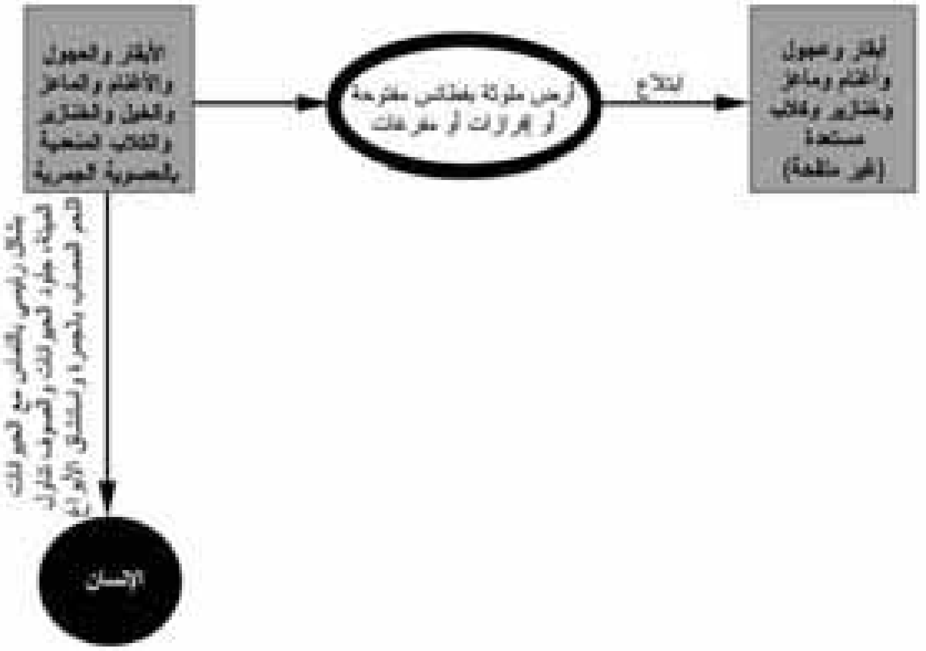
[illegible]

[illegible] 17.000 – 12.000 [illegible]

[illegible] epizootic [illegible]

ɭǪǩ ʔøǪǵ ğĀφăζĒΣă Ž ÀǫÀȮǪA ȷǓ ɄøǤĜÊőă ŌŋÀȞŸő ɃǿşÀȒőă ȸŋ ȼφǓ (1991) ȼęÀζǿş ɄȽ ŞǵŸǩ ȷǓ Ǽƶ ɄøǪőă ĞŐĒŐΣă ȷǓ ·Ōõ ʔŸʒş ÛğĀφăζĒΣĀæ ĞAüζǪŋ ĞŐÛAŋ ʔŸʒ ĞŢζĀǂă ğǿǾƚ Ǩʒǿà ɄøǪőăş ǻǿÀAAÀȡ Ž ĞAǼAŸǩζȮèɋă ǥAAÂƨă Ž *ĞAÀȶƨă ĞAζÔȞŸő* ĞŸAζÛőă ÀĒŐĞőă 40 ǼȞæ ·ĞAζĒΣă ĞȞȷŸèɟĀæ ĞĒĞAÀθ ȣăǼȽɟ ĞĒφÀǯőă ĞĒţÀȞőă āÀΣă Ž *ĞAÀȶƨă ĞAζÔȞőĀæ* ǥǿăÀȣæ ĞƤÀφ ĞŸAζÛőă ÀĒŐĞőă ȻǾȽ ȷǓ ȸŢAş ·ĞìζĒȞőă ȟăζæɟă ȐȞæ ζÎõ ȸȮɕ ȯăà Àŋ ·ĀĞAÀŐǩ ĞAè ǨĒĞAőă ȓÀÎAő ĞĞèÀAŋ ȡȡ ȣşÀş ɄȽş ǼüÀőăş ǻǿÀĞőă ƿAAţăş ǥAAÂDzŸő ĞĒȒŋÀΣă ĞĒæÀǪőă ȸʒ ·ɄøǽşÀȮţă

ȯÀŐǪφɍă ĞŐŸǵ ÜĞǯĒĜɿă ǥÀȶƨă :2 ŌȮÎőă




ĞĒφăζĒΣă ğÀDzǪAţă şǓ ʔşǼȞőĀæ ĞæÀÔţă ğĀφăζĒΣă ζȽ ÛǠȶəăǻ ÛʔşǼȞőă øǼÔŋ ·ȷÀÊφɋă ǼAʒ ·øǻÀÔţă ȻǾȽ ȸŋ ȟăζæɟĀæ ĞĀĒĞőă ǫζŸǩ ĞǫζŸţă

ĞÛőÀǺŋ şǓ Àŋ ȷăζĒǵ ǼŸDz şǓ ŃŸè ĞĒŸȶʒ ȯŸǹ ǴĒŐŸǪőĀæ ĞAǼŸƨă ĞǯĒĜɿă ǥÀȶƨă ÙŐǪŸǩ ğÀDzǪAţă ·ȯÀŐǪφɍă ĞęζŐÎţă ǻζŸƨă ŌŢÊǩ ·ʔşǼȞőĀæ ĞæÀÔŋ ǻζŸDz şǓ ĞæÀȩ şǓ şÀζ şǓ ȣζò ĞĞDzş şǓ (ȯζĞÛőă ȸŸǯŋ) ǻζŸƨă şǓ (ĞęŸΣă ǥÀìÀζ ȸŸǯŋ) ÀȞÎőÀõ ĞǫζŸŋ ǻăζŋ ȸŋ ĞʒζÀÔţă ğĀφăζĒΣă ȸŋ ȯÀŐǪφɍă ·ǥǼAǼʒ ğăζÀÊő ʔşǼȞŸő øǼÔȶõ ÀȶǪÊǩ Ǽę (ǼŐÔÁţă ȸŸǯŋ) ĞĒȶŢʒ

[illegible] (Braderic and Punda-Polic, 1992)

[illegible] (23) 6 [illegible] 1974 [illegible] %83 [illegible] 6 [illegible] 218 [illegible] (25) [illegible] %94 [illegible]

## ÜÒŁÁÎǬöä ĶǤǯÀ ʔøǬǵ ğÀĿŸŧȞöä Ōõ ȣÀŌÀǓ ǢDžĿʓ ǸŸÊŋ Ž ǦǯǤʅä ǥÀŧƨÀä ȼǬǬ̀ ìäǣǓ ȼä ǦÛĿǂä ĘùÀÀţäş ʔøÀǤţä ĶȾÛǩş ÛÈǝÀÛÀöä Ōõ ǢÀÀơ Ǣƶ ÛǦŁäÀƶǓ ǦDžĿǬÀöä ǨǬÀõ ɉǓ ·ğÀĿöÀȞÀöä ȣÀÀǬèä ŌǤę (ğÀʒÀè ⁸ ǥǼŋ %5 ɃşÀõ ɄŸę ȯƺŸȞŋ) ǦÀÀȞä

### ÜøɯɛþøǅǁɛU


Abdenour D., B. Larouze, D. Dalichaouche, M. Aouati. Familial occurrence of anthrax in Eastern Algeria [letter]. *J Infect Dis* 155:1083–1084, 1987.

Brachman, P.S. Anthrax. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill Book Co.; 1984.

Braderic N., V. Punda-Polic. Cutaneous anthrax due to penicillin-resistant *Bacillus anthracis* transmitted by an insect bite [letter]. *Lancet* 340:306–307, 1992.

Ebedes, H. Anthrax epizootics in wildlife in the Etosha Park, South West Africa. *In*: Page, L.A., ed. *Wildlife Diseases*. New York: Plenum Press; 1976.

Fragoso Uribe, R., H. Villicaña Fuentes. Antrax en dos comunidades de Zacatecas, México. *Bol Oficina Sanit Panam* 97:526–533, 1984.

Harrison, L.H, J.W. Ezzel, T.G. Abshire, *et al*. Evaluation of serologic tests for diagnosis of anthrax after an outbreak of cutaneous anthrax in Paraguay. *J Infect Dis* 160:706–710, 1989.

Hunter, L., W. Corbett, C. Grinden. Anthrax. Zoonoses update. *J Am Vet Med Assoc* 194:1028–1031, 1989.

La Force, F.M. Informe a la Oficina Sanitaria Panamericana. Haiti, 1978.

Little, S.F., G.B. Knudson. Comparative efficacy of *Bacillus anthracis* live spore vaccine and protective antigen vaccine against anthrax in the guinea pig. *Infect Immun* 52: 509–512, 1986.

Marshall, E. Sverdlovsk: Anthrax capital? [news and comments]. *Science* 240:383–385, 1988.

Ngampochjana, M., W.B. Baze, A.L. Chedester. Human anthrax [letter]. *J Am Vet Med Assoc* 195:167, 1989.

Okolo, M.I. Studies on anthrax in food animals and persons occupationally exposed to the zoonoses in Eastern Nigeria. *Int J Zoonoses* 12:276–282, 1985.

Okolo, M.I. Prevalence of anthrax in emergency slaughtered food animals in Nigeria. *Vet Rec* 122:636, 1988.

World Health Organization. *Joint FAO/WHO Expert Committee on Zoonoses. Third Report*. Geneva: WHO; 1967. (Technical Report Series 378).

Rey, J.L., M. Meyran, P. Saliou. Situation épidémiologique de charbon human en Haute Volta. *Bull Soc Pathol Exot* 75:249–257, 1982.

Simaga, S.Y., E. Astorquiza, M. Thiero, R. Baylet. Un foyer de charbon humain et animal dans le cercle de Kati (République du Mali). *Bull Soc Pathol Exot* 73:23–28, 1980.

Sirisanthana, T., M. Navachareon, P. Tharavichitkul, *et al*. Outbreak of oral-pharyngeal anthrax: An unusual manifestation of human infection with *Bacillus anthracis*. *Am J Trop Med Hyg* 33:144–150, 1984.

Sirisanthana, T., K.E. Nelson, J.W. Ezzell, T.G. Abshire. Serological studies of patients with cutaneous and oral-orophangyngeal anthrax from northern Thailand. *Am J Trop Med Hyg* 39:575–581, 1988.

Sirol, J., Y. Gendron, M. Condat. Le charbon humain en Afrique. *Bull WHO* 49:143–148, 1973.

Sterne, M. Anthrax. *In:* Stableforth, A.W., I.A. Galloway, eds. *Infectious Diseases of Animals.* London: Butterworths; 1959.

Turnbull, P.C., R.H. Bell, K. Saigawa, *et al.* Anthrax in wildlife in the Luangwa Valley, Zambia. *Vet Rec* 128:399–403, 1991.

Turnbull, P.C., M.G. Broster, A. Carman, *et al.* Development of antibodies to protective antigen and lethal factor components of anthrax toxin in humans and guinea pigs and their relevance to protective immunity. *Infect Immun* 52:356–363, 1986.

Van Ness, G.B. Ecology of anthrax. *Science* 172:1303–1307, 1971.

Wade, N. Death at Sverdlovsk: A critical diagnosis. *Science* 209:1501–1502, 1980.

Whitford, H.W. Anthrax. *In:* Steele, J.H., H. Stoenner, W. Kaplan, M. Torten, eds. Vol I, Section A: *CRC Handbook Series in Zoonoses.* Boca Raton: CRC Press; 1979.

Wright, G.G. Anthrax. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man.* 6th ed. Springfield: Thomas; 1975.

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## BOTULISM (ĬŧĬƗNjǁƐ) ĬŧШƨǁƐ !DžƨŧǁƐ

### ICD-10 A05.1

ƟŐDzÊőä ƗŧÊǪőä) "lamziekte ǯÀĤőä őäá" ÛAllantiasis ĘDzÊőÀæ ƗŧÊǪőä ˙ğÀǌáäÀţä ·(ǿǌÆÛőä Ž ƟŐDzÊőä ƗŧÊǪőä) "limberneck ĞĢęÀőä őÀơǿä ôÀƞ" Û(ÀÆŐÀÀǌÛ āǌÀDZ Ž ɃÀŐĞőä

ƟŁ ƟøǪőäş ÛClostridium botulinum *ĞÆŐĿÌǌőä ĞÆĴÛţä* ÀŦDzǪÀǩ ğÀφÀÀæ ˙ğÀÆĞĢÊőä ȸŧȓ (31) Ǩ3ÀǮ Æęş ·ȟäǌäǪő ŌȮÎƞ ɃøÀĞDZÛ Ɵäǌŀ ꞅ *ĞÆŐĿÌǌőä ĞÆĴÛţä* ·ĞÆőǌĤǌ ÀĴõĵä ȓÀyÛ 3Ğè ǨǌÀĤǪèä ·ĞÆDZǌöşƘÊőä ğäÀÆţäş ţøÀőä ÆÊǵ (IV БÛ I ȸƞ) ğÀ3ǌŧƒ 3äøÛ ƗDzÀÀ ·ĞÆDZǌöşƘÊőä ÀŦǪÆ3ǌÀő ÀĤĞǨ (G ← A) (ĞÆŐĿÌǌőä) ĞÆŐDzÊőä ğäÆȒǪÊƞ ȸƞ ĞÀŸǪƯ Ž ·ӯÀĤÛőä 3ƞ ĞĤŸǪĞţä ȷǌȮǪőä ĞŐĞÊţä ğÀφÀÀÀØőä ȸ3 (ƟȮÆèŸȮőä) áǌŦĤţä ƟŐDzÊőä ƗŧÊǪőä Ùƴ ȣÀĤǪèä ˙1976 ӯÀ3 Ž ·āÀȮţä ǰÆÊÀőä ǫǌŸǩ ȸƞ ȷÀÀÀØőä ŌȮÎǪÀ DzÀƨä ƗŧÊǩ ɃÆĤţä ŌÆĞÊőä øÀŧĤǪèä ȸ3 ƗDzÀÀş Û(ƟŸÀÛőä) 3ȓÀőä Ž ƟŐDzÊőä ƗŧÊǪőä ǌŁ ÆÀÆDZ ɃÀÀè ·ğÀφÀÀÀØőä ΐ ÀȎǪƞäş ǯÀǪφÛ ȸƞ ȼÀ3 ǰǪÀÀ Àƞş *ĞÆŐĿÌǌőä ĞÆĴÛţÀæ* ŌÀÛŸő ɁŸ3 ÀäÀŧǪ3ä (IV БÛ I) ĞÀŸǪÅţä ğÀ3ǌŧŎä ȧÀÀǩ ·ÀÆDZ ÀÀȣǪƞ *ĞÆŐĿÌǌőä ĞÆĴÛţä* ţǌφ ÀȮÊŸő ĞőÀǵş ƘǨşƎŸő ĞőÀǵ I Ğ3ǌŧŎä ·ÀõÀȮÊőä ƗÆÛƠş ğÀÀÆǨşƎőä ƗȒŁ ɁŸ3 ÀőøÆŐƞ

[illegible] B [illegible] A [illegible] B [illegible] E [illegible] II [illegible] D C [illegible] III [illegible] G [illegible] IV [illegible] (9 [illegible] 28) [illegible]

[illegible] (7) [illegible] *.baratii* [illegible] *butyricum* [illegible]

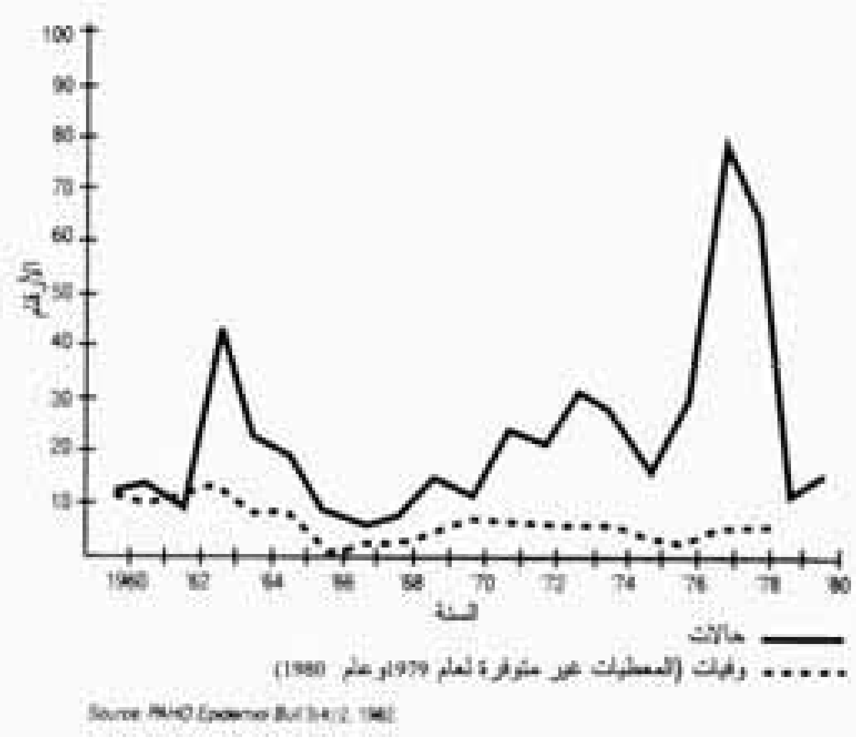
[illegible] E [illegible] (2) [illegible] E [illegible] (15) [illegible] (36) [illegible] B A [illegible] IV [illegible] (37) [illegible] (14) E [illegible] *.argentinense* [illegible] G [illegible] (1986) [illegible]

[illegible]

[illegible]

[illegible] 15.1 [illegible] 19763 [illegible] 1950 [illegible] 3 [illegible] 2.4 [illegible] 59 [illegible] 1977 [illegible] 10 [illegible] .(39) [illegible] (3 [illegible]) [illegible] .(PAHO, 1982) 1980 – 1960 [illegible] %4 [illegible] 5 [illegible] 45 [illegible] 1899 [illegible] .1984 – 1976 [illegible] 308 [illegible] % 42 [illegible]

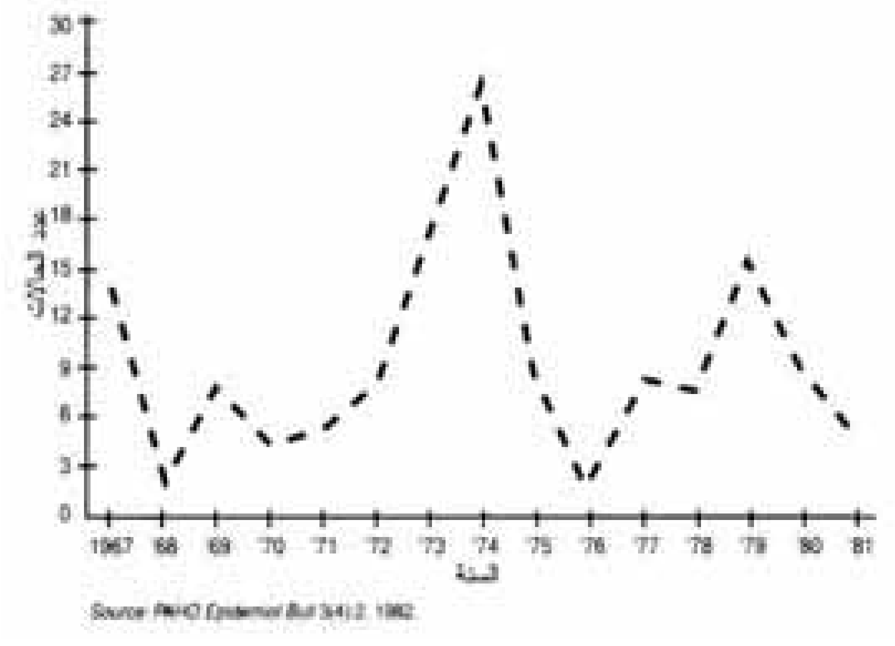
[illegible] :3 [illegible]
1980 - 1960




[illegible] 1977 [illegible] 59 [illegible] (PAHO, 1982) [illegible] 15 1980 - 1979 [illegible] .(21)

ģÆȝ ĶǬÆǵ 1958 ӯÀȝ Žş ·(4 ŌȯÎöā) 1981 – 1967 ʉŋÀȝ ƙā ǦöÀǵ 139 ȸȝ ŋĿŸǤǬöā Ź ǦŸəÀȝ ȸŋ ǒÀȒȝǕ 6 ğÀŋ ÀŋÆÀȝ ŌÀäāƎöā Ž (ʉŌĿÌǫöā) ʉŌDzÊöā ĻŁÊǬöā ȸŋ Àŏ ¢ǤǬÎŋ ğɍÀǵ 1981 ӯÀȝ Žş ǕĿĿöÀøÀŋ ÆŸȞŋş ȧǫŸÊŋ ŌƧ ŌōǕ ÆȞā ĿȒÀÀŋ ĻŁƘď ǴǤȍǕş ģÆǵāş ·ĿȝÀÀȍ žÀȞŋ ӯÀȞù ȯşÀÀǩ ǦDzĿǬǹ şƘǹÀƶǻǫÀǿ Ž ÀŁŏ ¢ǤǬÎŋ ȷÀÀǹǕ ȷÀǬöÀǵ ĶǬÆǵ

1981 – 1967 ƙǬADZǿǰā ÛǦÀè Ōõ ÀƮÀȝ ŋŸǤţā ʉŌDzÊöā ĻŁÊǬöā ğɍÀǵ :4 ŌȯÎöā




ÆŸǤöā şÆǤǩ ʉøǬöāş ¯ ģÆÀöǫā ʉÀǫ ÛÀǹǿ ÆŸā ȸŋ ÀĿèǕş ÀāøşǕ Ž ôÀţā ǫşÆǵ ǬŸǬƩ ǦĿÖā Ž ǫÆȝ ÀŁõ ÛǦĿÀÀǿ ĘùÀÀŋ Ž ğɍÀƩā ĻŢȞŋ ĶǬÆǵ ¯ ʉŌDzÊöā ĻŁÊǬöÀā ĿÀǬüǩ ÀǯŏǰāŌõ ǦöÀǵ 471 ȯÆȞŋ ģÀǫş 45ş ǦöÀǵ 2.390 ¢öÀƤǕ Àŋ ǫÆǵ 1983 – 1979 ȸŋş ·ȷāÆŸǤöā ǻÀƠɍā) ōÀÊǫşÀǬāşƎÀÀǻ Ž ȷǿā ʔøǬǵ ǦǫşÀȞţā Ǝōǰā ǦĿÌÀÀöā ĶǬÆǵ ·(17) ǦÀè ǦĿÌÀǫ 14 ǫÆƠ ĿĿöÀǵ ·ģÀǫş 974ş ǦöÀǵ 230 ĶǬÆǵ ǬĿǵ 1933 ӯÀȝ (ĘāÀÊöā ʉøǬĿĿǫǫÊöā ʔŸȝş ·ǦÀè Ōõ ĿǤÀÀŌǩ ğÀĿÌÀǫ 4 ǫÆƠ ǬĿǵ ÛøǻÀǹ ʉŌĿÌǫöā ĻŁÊǬöā :ÀÊǹÀǫ Ž ·ĿÀǫÀè ŌöƂ Ž ǦöÀǵ 1000 ȸŋ ÀǯōǕ ÀƮĿǫ ǦĿÌÀǫ 500 ĶŸDzè :ǦĿǹÀǯöā ǦĿţÀȞöā āÀƩā ȯŸǹş :Ōõ ǦĿÖā Ž øǻÀǹ ʉŌĿÌǫöā ĻŁÊǬöā · ôÀţā ţǫęş Ž ģÆÀöǫā ÆȞā ʉøǹÀǯöā ÆŸǤöā ʉŁ ÀĿǹÀţǕ ·ÆŸǤöā Ž ģÀǫş 548ş ǦöÀǵ 4.377 ÀƮĿǫ ǦĿÌÀǫ 986 ĶǬÆǵ 1983 – 1958 ȸŋ ģÀǬÀöā ȯŸǹ ·ǦøāøşǕ

(ã)(ﻕ) 1977 – 1899 ģÆĦǪţä ğÅŀɼζöä – ğÅĪìÅÅöä åÆʒş ÛŲÖDzÊöä ƪŧÊǪŸö ǦǦÊţä ǦŧĦùɟä :1 ȯşÆƨä

| نمط تيفان التسمم السجقي | الخضار | السمك ومنتجاته | الفواكه | التوابل[ج] | العجل[د] | اللبن ومنتجاته | الخنزير | الطيور | أخرى[هـ] | غير معروف | الإجمالي |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 115 | 11 | 22 | 17 | 6 | 3 | 2 | 2 | 8 | 9 | 195 |
| B | 31 | 4 | 7 | 5 | 1 | 2 | 1 | 2 | 3 | 3 | 59 |
| E | 1 | 25 | — | — | — | — | — | — | 3 | 1 | 30 |
| F | — | — | — | — | 1 | — | — | — | — | — | 1 |
| A, B | 2 | — | — | — | — | — | — | — | — | — | 2 |
| غير معروف | 2 | 1 | — | 1 | — | — | — | — | — | 6 | 10 |
| الإجمالي | 151 | 41 | 29 | 23 | 8 | 5 | 3 | 4 | 14 | 19 | 297 |

أ) في الفترة من 1899 - 1973: ذكرت الفاشيات التي تم فيها توكيد نمط التيفان فقط. أما في 1974- 1977فقد ذكرت كل الفاشيات.
ب) محضر من قبل مراكز مكافحة الأمراض والوقاية منها بأتلانتا، جورجيا، الولايات المتحدة.
ج) تتضمن الفاشيات الناجمة من توابل الطماطم والسلطات والنقانق الحارة.
د) تتضمن فاشية من النمط F ناجمة عن لحم الغزال وفاشية نمط A من لحم الضأن
هـ) فئات أضيفت للفترة 1974- 1977
*Source: PAHO Epidemiol Bull 3(4):2, 1982.*

·(45) ɳƿÀ ɳÆì ȰɳƟøǟÀȣǟ ƃÀȽÎǟ ǈĿŸƈǟ Ž ǨǫÆǵ (%81) ǧɍÀƩǟ ǈŢȞɳş ÛƙÔǟ ǰÀǟÆǟ Ž ǧÀʐş 109ş ǦǟÀǵ 478 ÀȚʐ ǦÈìÀʐ 96 ǨǫÆǵ 1984 – 1951 ȹɳ ǥÀǫÀǟ ȯŸǹş

·(31) ÀÕÀʐÜ Žş ÀèÜ ǦÕǟ Ž ǦŸŸ ǧɍÀǵ ȣǟÀǫèǟ Ź ·(17)

ȹɳ ÆÀÆȞǟş ǟÆÀõ Ž Ż ǥÆȞǫţǟ ǧÀɍʐǟ Ž ƃşǰǟ ǥÀȽŸǟ ȰŸÀÛǟ ȰÕÈìʐǟ ǈȽÊǫǟ ÀÈǫ Ź ǧÀɍʐǟ Ž ǦǟÀǵ 184 ǨŸƋè 1980 ƃÜ 1976 ȳÀȝ ØÀɳş ·ÀǟÀǫèǟş ǦÆøşǰǟ ǰǟÆŸǦǟ

·ȝÀǹÜ ǦÀɍş 25 Ž 96ş ÀƿøʐÀǟÀõ Ž ÀȚÀɳ 88 ǫÆǵ ÛǥÆȞǫţǟ

100 õÀȽ ǬÈǵ ÛǥÆȞǫţǟ ǧÀɍʐǟ Ž ÆǟÊǟ ÒÒÎǟ ʐȽ ȰŸÀÛǟ ȰÕÈìʐǟ ǈȽÊǫǟ ·ÀǟÀǵ ƙǫÀƋøǰǟ Ž ÀŔÀÜ ôÀţǟ ʐòş ÀȽõ ·(37.36) ǦÀè Õõ ÀȚÀȝ ȟŸǟƈǟ ǈǫÀ ÀǦÀÕǨ ǦǟÀǵ ǧɍÀƩǟ Õõ ǨǫÆǵ ·ÀǟÀÛÀş ȝȽŢȞǟ ǦƿÀÛÀÀǟş ǦÕǟÀÊǟ ÀõÀʐʐŸèʐÒÎǨş ǟÆÀõş ÀǟÀǫèÜş ȹɳ ȜõÜ ÀȽȞǟ ȯÀùǰǟ Ž ÀȚŔȞǟ ǫşÆǵ ǈǳø (23) ÀȚìÜ 6 ȹɳ ǬşÜ ÀȽȞǟ ȯÀùǰǟ Ž ÀǦÀÕǨ

·ǦÀè

·1943 ȳÀȝ ǥÆȞǫţǟ ǧÀɍʐǟ Ž ȰÕÈìʐǟ ƋʐÀƨǟ ǈȽÊǨ ȹɳ ǦǟÀǵ ȯşÜ ȝŸȝ ȣÀȞǫǟ Ź ȰøǦÊÈÊÈţǟ ÀŒ ȰøǟÀƌ ǧÀɍʐǟ Ž ÀȚÀɳ 20 ÛǦǟÀǵ 27 ÕÈƋÊǨ Ź 1982 ȳÀȝ ȯʐŸǅş ǥÆȞǫţǟ ǧÀɍʐǟ Ž ȰÕÈìş ǈȽÊǨ ţʐşş 1986 ȳÀȝ ȼşÀʐøş ÆƿɍşÆõÀɳ Àõǟ ·(CDC, 1982) ȰøÀɳÆɳ ÆÀȝ ÀȚÀɳ ǰÀǫÀǟ) ȰÕÈìʐǟ ƋʐÀƨǟ ǈȽÊǨ ȹɳ ǦǟÀǵ 16 Õǟ Ž Àɳ 1984ş 1967 ƙǟ

·(ÆÀøʐǟ ÒǹǟÀ ǦÀşÀÜ ǰŸȽȞǫÊÀ ǧǟøÆƯ

ȹȝ ÛøʐÈÛǟ ÀȚÈʐ Àɳ ÛǧÀƿǟʐÈƩǟ Ž ȰÕÈìʐǟ ǈȽÊǫǟ ǈƋÀ :ǧÀƿǟʐÈƩǟ Ž ǫşÆƩǟ ·Bş Eş A :ȓÀy ǰǟ ǦƋʐÈǫƿ ǧÀÈìÀʐ ÀŔÀÜ õÀȽ ȹÒǟş ÛDş (ÀǫÈǟ Cş ÀÀǟÜ C) C ƙÛȽÀǟ ȹÒʐ ǬÈǵ ·ĘùÀţǟ ŔȞǟ Ž ǦÀǟÀÔǫƈɍǟ ǦÈǵÀÀǟ ȹɳ ÀȽȚɳ øÀÕǟǰǟ Ž ȰÕÈìʐǟ ǈȽÊǫǟ ǦǦòÜ ÛøʐÀÊÀǟÀǟ ǥǨÕʐ ǥǟÀȝ ȰȽ ȰøǫǟÀş ÛĘùÀţǟ ǾØȽ ·ǧÀƿǟʐÈƩǟ ȹɳ ǨǦõ ǟÆȝ ȝŸȝ ÀǫúÀ ǰÜ ƙǫÀƋøǰǟ Ž ȨÈǫƿøʐõ ǈŸşÜ Ž ǥǟʐƋʐɳş ǥÆȞǫţǟ ǧÀɍʐǟ ǟÀƌ ǟʐÀƋ Ž ǥǟʐƋʐɳ ÀǨǟʐǫǟ ȡÀÕǦǟ ȰÕÈìʐǟ ǈȽÊǫǟ ǫÆȝ Õõ ȝŸȝ ·ÒÀǟǟȜǟ Ž ʐèşÀõʐÀɳş ȡǟʐÈǟ Ž ǥǟʐƋʐɳş ǬÈǵ ȯÀȣÀÊǟ Ž ÀŔÀÜ ǈȚɳ ʐȽş ÛÀǟÀǫèÜş (ȳÀȞƿǰǟ Ž ȝÀȞǟ ǟǟ) ÀÕÀʐÜ ǟʐÀƋ Ž ÀȝõÜ ǫÆȞǫʐ ȝÀǹǰǟ ǰǟÆŸǦǟ Ž ÀɳÜ ·ÀǹÜ ôÀɳ ȡÜ ȹɳ ÀȝõÜ ǦÈìÀţǟ ÆÕʐ ÆǦÊÀ ȼƿÜ ÆÕǫȞÀ

ʔŸʒ ƙÁζϘǂä ȷÂÅƫä ƍÒöäş ȤŸȞöä ŌõÜ ȸʒ ƟÊÍəø ŌÒÎæ ǴƤÀφ ğɾÀǵş ǴÁấäÀζ ğÀÍÌÀζ ƍÒöä õŸȚϘèä ǴDzÍϘφ ǴƭȚɳ ğÀÍÌÀζ ǵÆʒ ÍÕÀǵ ǨŸDzè ·(31) ȷζÒϘöä ǴÕǴÊƫä ğÀφÀÀØöä ǴÍÌÀɳ âÜø 150 ȸɳ 80 ǴǴòÜ ʔƭȚȞöä ÀÍφÀÛÀÀæ Ž ·øζÍÛöä ϙşøş ğÀφäζÍHŬŸö ÍÌäÀζ ØÅϘƫä ÍŸÔɳ 22 ȸɳ 18 Ž C ÙƭÀöä ȷÀÀÀæ ȤÎϘõä ·ÀȚÀɳ 68 ğÀɳş ÍȒÀÀɳ ŌǴÛòɾä Ž ǵấζDzζɳ ·(22) ȷÂÅƫä ƍÒöä Ž ấζDzζƫä ǨÍƫä ʓÀDzÆöä ÀÀÕæ Ž ȷÀÀÀØöä ÈÀφ ğÀǴϘÜ Ź Æęş ·ǨÔHŬζ ǴÁØ8Ϙö ǴɳÆÅϘÊƫä øζÍÛöä ɐäÀζ öäζϘǵä ǴDzÍϘφ äÆÀõş ŌÀäÄƎöä Ž ǴöÀÎɳ ğÀÍÌÀζ ǨϘÆǵ ·(29 Û4) C ÙƭÀöä ȷÀÀÀæ ʔŸʒ ǴÍÌÀƫä

·ǴÍÌÀƫä Ž ƟÕÍÌζöä ƪƭÊϘöä ğÀÍÌÀζ ϙÆƠ ÀɳÆÀʒ ǵấÀʒ ǵấζDzζɳ ǴÍφäζÍΣä ğÀÀŸÅƫä ÆÀÆȞöä Ž ȤŸȞöä Ž ǴÍφäζÍǵ ğÀÀŸƯ ƁÜ ÆDzζǩ ɾ Æę ·Ōõ ʔŸʒşÛȷÂÅƫä ƍÒöä ǴDzÍϘφ ǴòÀǹ ·ǴæøşÜş ǵÆHŬϘƫä ğÀÀɾζöä Ž ğɾÀΣä ȸɳ

(11) ǵÆHŬϘƫä ğÀÀɾζöäş (5) ÀæøşÜ Ž ğÀÍÌÀζ ǨϘÆǵ ·øấÀφ B ÙƭÀöÀæ ÀÕǴöä ƪƭÊǩ āÀɖ Ž ȣÀȞϘèä Æęş C ÙƭÀöä ȸʒ ÿÀɖȷä Ž ƟÕÍÌζöä ƪƭÊϘöä ƪDzÀÀ ·(20) ŌÀäÄƎöäş ·ÙÕζ ÀÍÕÀÀζÜ āζÀDzş ÀÍöäÀϘèä

ȸɳ *ǴÍÕÍÌζöä ǴÍǰÛƫä* ȸʒ ÀȚƭȚȞɳ ƪDzÀÀş ǴÁấäÀζ ƟÕÍÌζöä ƪƭÊϘöä ğɾÀHŬζ òζÍɿä Ž ÀɳÜ ƙÛÊŸζş ǵÆHŬϘƫä ğÀÀɾζöäş ǴÍæøşȷä ȷäÆŸǴöä ȸɳ ÆÀÆȞöä Ž ǨÔÅÌ Æęş ·C ÙƭÀöä ǴɳäŸϘɳ) ʒÍæÀèÜ 8-6 ÀƭȞæ øζȚƫä Ž ĩÀǹ ƫζφ ϙÆʒ ·ÀÍÕÀÀζÜ āζÀDzş ÀÍöäÀϘèÜş (ŌÍəäÀèÜ) Ž ƟÕÍÌζöä ƪƭÊϘŸö ǴöÀÎɳ ȼϘÍɼäÀɳÜ ÛB ÙƭÀŸö ƟøǴÔȞöä ȷÀÀÀØöä ȸʒ ƪDzÀÀş (äÂÂȚä ÀȚƫä ȷÀÀÀØöä ǰϘÀϘö ÍɾşÜ ʔÀǹȷä ʒęäζƫäş öÀȞɳȷä *ǴÍÕÍÌζöä ǴÍǰÛƫä* ÀƭȞϘÊǩ ǪÍǵ ÛòÀÀùȷä

·(40) ÀÍöäÀϘèÜş ǵÆHŬϘƫä ğÀÀɾζöä Ž ŌÒÎöä äØȽ ȸɳ ğÀÍÌÀɳ ǨÀòş ·ÍÕǵɾ ƟøǴÔȞöä ȷÀÀÀØö ƫζÀöä äØȚ ǴÍÕÀȞöä ǴÍȞÍǴÛöä ǴɳşÀÕƫä ÆǴÊæ øấÀφ ÀÀäÀÀɿä Ž ƟÕÍÌζöä ƪƭÊϘöä ǵÆǵäş ǨƭƱş ÀϘÍæ C ÙƭÀöä ȸɳ ÀÍöäÀϘèÜş òÀ8ÀÊöä Ž ǨÔÅÌ ğÀÍÌÀζ ǨƭƱ ·ǴÍÕÍÌζöä ·B ÙƭÀöä ȸʒ ǵÆHŬϘƫä ğÀÀɾζöä Ž

ǴƤÀφ ǴƭȚɳ ǴŸÒÎɳ (ğÀÀøζÀÊöä ȸɳ ôøÀę ȷäζÍǵ) ŌÀƫä Ž ƟÕÍÌζöä ƪƭÊϘöä ȷζÒÀ Æę ǴæÀòȒö ǴÍÕÀʒ ǴDzøÆæ ÆȞϘÊɳ ŌÀƫä ·ȼæ ʔòζɳ ζȽ ÀƭȭõĠ ǴÕŸÀ B äæÜ Ōõȷä Ž ȼǩäấÀʒ ȸʒ ·ÍǴÀÀÕǩ ğÀÍÌÀÀöä Ōõ ÆǴÊÀ ƁØöä C ÙƭÀÕÀæ

[illegible] cannibalism [illegible] (31) [illegible] (41) [illegible] (7.4) [illegible] (6) [illegible]

[illegible] (16) [illegible]

[illegible] (31) [illegible] (34) [illegible] (12) 1969 [illegible] 18 [illegible] (35) [illegible]

[illegible] 36 [illegible] 18 [illegible] 8 [illegible]

ğäÀŁÀŢϘöä ·ĞĒGÔȞöä łȏ äÀȝɉä ÛƟøÀÛGöä Ɓɉäȿ öÀĒÕöäȿ ɉÀĒȜ8öä ŌȜɳ ÛĞAʐȞʈä ĞAÆȞʈä łȏ äÀȝɉä ʔÕGA ·ȝŸGöä ÀÊȝȿ ĞǨÀöäȿ ȝÀÎöä ȝĒÎA Àȶȏ ÛòàÀϕ ŌŸì ȿǕ ȤȞȓ ȝɳ ĩȶəáá gÀȿÀAϘɳ ĞĒGÔȞöä ·gáÀȝ ƟÊÀAϘöä ŌÎÀöä ʐŁ ğʐȶŸö ÀìÀGʈä ÆGÊöä ·ğʐʈä ʔøϘǵ ɉÀȶĒŸè âÀÊǵqäȿ Ɵȝʐöä øäȿáǕ ȝɳ ʔȓÀɳ ƙǣ ʔŸȝɉä òÆȞʈä ŌDzè ·ĞȞÀǨÀɳ ĞĒÕĒì ʐöä ğÀȶȶÊϘöä Ž ğÀĒʐʐöä òÆȞɳ ĞǨÀɳqä òÆȞɳ ȝDZäÀǨ Æȩȿ ·ɉÀÀAØöä ȡɳ ĞĒöÀȝ ğÀȝÀDZ äʐȞŸϘää ȡAØöä ŌÀöȿǕ ·ƂǕ ÛgĸÔȩ ĞϕÀȒǵ ĞDzĒϘϕ 1977-1970 ƙǣ %15.7 ƂǕ 1949 – 1899 ȳÀȝ ƙǣ %60 ȡɳ gÆȞɄϘʈä ğÀĀɼʐöä Ž ȡɳ ĩŸAʐù ĩϘȩȿ ÛĞĒAĒȞöä ğÀõÀȞɄŸö ĞòÀǹ ÛȳÀϘöä öÀAÎöä ȧÀ8ϘÊA Æȩ ·ĞGèÀAʈäȿ gÀȮGʈä ĞƨÀȞʈä ·öÀĒǵǕ ɉʐÕGA ȡAØöä ʔȓÀʈä Ž ÀȾìǕ 8-6

A) űʐÀȮϘöä ƟϘŸȜöä ĞĒÕĒϘʐöä ɉÀÀAǣ Æȓ öÀÛȝüǣ ȡÕư Ǩȩȿ ʈÀèüǣ ĞƨÀȞʈÀǣ öäÆϘǣɼä Æƺ ĞĒÊÀAϘöä ĞÕəÀȒöä ȧÀGϘèɼ ʔÀÎϘÊʈä Ž gÀõÀʈä ĞAÀȝÀöä ƂǕ ȒAÀʈä òÀȵáǕ Æƺ ·(Eȿ Bȿ ·(3) ğʐȶŸö ÀìÀGʈä ÆGÊöä ƟŁ ƟøϘöäȿ ÛÀȾϘƨÀȞʈȿ

*ĞĒÕĒì ʐöä ĞĒȜÛʈä* ȟäʐǣǕ ʈŸϘää ȡȝ ĞƤÀϕ ĞAʐȞɳ ʔȿÆȝ ƟŸÀÛöä ƟÕĒì ʐöä ɭȶÊϘöä (ā) ĞöÀǵ 96 ƙǣ ȡɳȿ ·ğÀϕÀÀAØöä ǰϘÀǩȿ ÀϕÀȮϘǩȿ ƟøǨÀGϕqä ŌȮÎöä ƂǕ öÀȞɳɉä Ž òʐɄϘǩ Ɵøϙöäȿ *ĞĒȜÛʈä* ȡȝ Ǩȶȭ ĞöÀǵ 41 ɉǕ ƙGǨ (23) ÀĒϕøʐÀĒöÀȭ öÀȜϘèÀǣ gÆȞɄϘʈä ğÀĀɼʐöä Ž Ǩèøá A ÙȶAöä ʔÆǣ ĞAʐè Fȿ B ÙȶAöä ȡȝ gÆǵäȿȿ ÛB ÙȶAöä ȡȝ 53ȿ ÛA ÙȶAöä *ĞĒÕĒì ʐöä* ȼǣÀÎɳ ʈàʐϘöä ·ȧÀÎöä Ž ĩÀÛĒÊɳ B ÙȶAöä ɉÀȭ ÀȶAĒǣ ÛĞĒǣÀ8öä ğÀĀɼʐöä Ž ĩGÀÕǨ ĩÆȞGϘÊɳ ·ŌöǣƂǕ ĞʐÀȓǕ ·(òÀÕϘϕɼä ääüȿ ʔȿÆȞöä ȿǕ ɭȶÊϘöä øÆÔɳ ·ÀŢϕä) ĞÀĒGöä Ž ȟäʐǣɉä ʈàʐϘö gÆǵäȿ ĞöÀǵȿ *botulinum* *ĞAÆǣÀÂöä ĞĒȜÛʈä* ȡȝ ɭDZÀAöä E ÙȶAöä ȡȝ ÀĒöÀÛAǕ Ž ɉÀϘöÀǵ ǨÀòȿ ƙȝʐϕ ȡȝ ƂǕ ÛĞĒǨäøÀGöä ĞȜÛʈä ȡȝ ɭDZÀAöä F ÙȶAöä ȡȝ gÆȞɄϘʈä ğÀĀɼʐöä Ž ʐÕĒÊÕɳʐĒϕ Ž ȝɳ ÀȾìǕ 6 ȡɳ ŌȩǕ ÀŁÀȶȝ ĞŸÀü ĞöÀǵ ğÀõǣ Àȶȏ ·(ğÀĒGGÊöä ÀŢϕä) *ĞĒÕĒì ʐöä ĞĒȜÛʈä* Ǩǳ ÆȞǣ ĩĒǵ ŌÀÛöä ʔÕGA ·*ĞĒÕĒì ʐöä ĞĒȜÛʈä* ȡɳ C ÙȶAöä ɉÀÀAǣ ȡȝ ɭDZÀϕ ƟøäÀĒϘϕä ÈÀϕ ĘĒȓ ·(24) ǰÊõüϘöä ÒŌϕ ȡȝ ĞƤÀϕ ɉʐÕǨ ɉǕ ŌȶϘǂä ȡɳ ĞĒư ĞʐǕ ȡɳ ƟøϕÀȞA Æȩ ȡÕö ÛȏÀʈä Ž gũDzʐ ğÀɳ ŌÀü ɉʐöʐȩ Ž C ɉÀÀAØöäȿ ɭĒϘäÀƨä (34) ȼȩÀʐø ȿÆAäÀϕʐè ȣÀȞϘèä ĘäÀÊöä ·äÀÊAʐè

Бǚ ÒǪς ÏÆĢÔ3 ÏǿÀÀÀæ øζÛǩş ÀǫÀÒǪǩş Æüζǩ ȷǚ ĞĿÕĿÌ ζöä ĞĿǯÛȶŸö ȸÒς ǬĿǵ ĞĿəäζĿ
B ÙȶÀöä 3ŋ 5ş A ÙȶÀöä 3ŋ ǨÕζäÀǩ ĞöÀǵ 15 õÀÀĿ ĞζşÀȞŋ ĞöÀǵ 27 ƙæ ȸŋş ÜĞĿ3şɟä
·ǵåÆŢ Ƙȡ ǵÆǵäşş ÀȶŢĿŸõ 3ŋ ǵÆǵäşş

Dş C ƙÛȶÀöä ȸ3 ĞÀDzäÆöä ğÀĿÀÆǯöä Ž ȹÕĿÌ ζöä ĮȶÊǪöä ĮDzÀÀ ·ğÀǿäζĿΣä Ž ôÀȶä
ǵåÀ3 øζÀÊÀöä àζ3 3ŋ ÀÕĞöä Ž ğÀĿÌÀÀöä ǨÕζäÀǩ ·C ÙȶÀöä ȸ3 øζĿÛöä Žş ÛȹÊĿəø ÕÒÎæ
ʔŸ3 ĞÀşÀΣä ĞÀĿDzŸö (Pica ÀÛÕöä) ȻÀÊÕöä õŸŢǪèɍäş ȳÀŢȞöä ÕõǙ ȸŋ ȼĿöǙ ȻåüÀÀŋş
·ÀĿÕÀÀζǙ āζÀDz ÕǯŋÛDş ÀǪĿæ C ȷÀÛȶÀöä ÀŢĿζ ÆDzζÀ ȹøǪöä ȸõÀŋɟä Žş ·ĞĿÕĿÌ ζöä ğÀǿÀÀÀæ
·ÀŢ ÏÆDz ǵÆȞǪÊŋ øÀÕæɟä ȷζÒǩ ğÀǿÀÀÀæ ȷǪÀǩş ĞÀĿƨä Ž Ğ3ÀÊæ ĞĿÕĿÌ ζöä ĞĿǯÛȶä ţäζǿǙ ÀǫÀÒǪǩ
·3ŸĞöä ğŸȒȞöş Ğ8ɍÀȶäş ƙȞŸö ĞõÀɫä ğŸȒȞŸö ȹəÀƨä şǙ ȳÀǪöä ÕŸÎöä ζĿ ȹÊĿəÀöä ôÀȞöä
ôÀȶä ȹçÀǪæş ÛĞŸÀζü ǵÀǪζ ȹÕŸǪÊÀ şǙ õäÀǵ Ÿæ ʔÕĞÀş ÛĞõÀΣä ĞæζȞò ȸŋ ȷäζĿΣä ȹøǿÀȞÀ
ğÀĿζζöä òÆȞŋ ·ȼĿǩÀòÀǹ àζζ ȼǪĞçø ȹøÀƷ ÕöØæş ʔŸ3ǬǛ ȼèǙø ǨĞǯÀ ȷǚ 3ĿÛǪÊÀ ɍ
·3ÀǩÀŋ
ğÀǿäζĿΣä ƎƵ ȻØöäş ÀõÀÒÊöäş ƙǩşƎöä àζ3 3ŋ ȹÕĿÌ ζöä ĮȶÊǪöä ĘζäÀǪÀ ·8äÀȴä Ž
·ʔ3Àȶä Ž ÀŒşÆƵ ȹøǪöä ǵƘ8Ôöä ğÀǿäζĿΣä ÈəÀÛζ ÕõǙ ʔŸ3
ĞĿȶõ ʔŸ3 ÏåÀȶǪ3ä 3èäş ÕÒÎæ ĞǿÀȒΣä øşå ƸŸǪƸ Ûğ ÀĿÀÆǯöä ĞĿÕæ Õǯŋş ·ÕĿȴä Ž
ÀŋÆÀ3ş ·ƙŋζÀ şǙ ȳζÀ òŸǹ ȷäζĿΣä ğζζ Æçş ÏÆDz ǵåÀΣä ğɍÀΣä ȹÀζ ·3ŸǪȶä ȷÀÀØöä
Бǚ ʔçÀǪÀş ƙĿŸÀÊöä ƙζÀÛŸö ƙĿÀŸȴä ƙȞäÀöä ÕŸÎæ ǵåÀ3 ôÀȶä ÜÆĞÀ üÛæǙ àÀÊȶä ȷζÒÀ
ȷÀÀÀæ ʔşÆ3 ǨÀòş ·ȹÊÀÀǪöä ÕÎÀöä ĞDzĿǪǿ ğζȶÀæ ȹŢǪÀÀ ʔøǪǵ ĮÊƨä ȸŋ ʔÀǹǙ ȸõÀŋǙ
ĞŋäŸǪŋ ÆĿÔǩ ·ĞȞζÀĿöä øζŢȶä Ž ȹÕĿÌ ζöä dzÀƨä ĮȶÊǩş ȹŸÀÛöä ȹÕĿÌ ζöä ĮȶÊǪŸö ĞöÀÎŋ
ȹçÀǪŋ ȹõÀǵ ÕŸÌ ğÀŋŸ3 ÀŢŢǩş Û3ĿäÀèǙ 8-2 ȸŋ ÀȶȞæ øζŢȶä ȹŸȒȞöä ȹøĞÔȞöä ÕŸÎöä
ĞæζȞòş ÛȷÀÊŸöä Ž ζǹø ÕŸÌ 3ŋ 3ŸĞöä ÀÊ3ş (ääÀŢä ÀŢȶä ĞŋäŸǪŋ) ÏĿŸȒ3 ÏÌÀ3ø ȸȶȒǪÀ
Æçş ·(40) õÀÊŋǪǵäş ƙǪçÆΣä 3èζǩş ÛÈÀÀǪöä ĘĿɍş Ûɍ ζÕÊŸö ÕĿŋş ȳäÆçɟä ʔŸ3 öÀÕĞöä
B ÙȶÀöä ȷÀÀÀæ ȸ3 ôÀȶä ĮDzÀÀ ·(üDzÀÀȶä ğζȶä) ôÀȶä ğÀŋŸ3 øζŢş ȷşå ȷäζĿΣä ğζζ
şǙ ĞÀÀÊöä şǙ ĞÀζȞȶä şǙ ĞÀÆȞȶä ğÀζɇä Ž ĞĿÕĿÌ ζöä ĞĿǯÛȶŸö ÏÕĞÊŋ ÏøÀȶȞǪèä ÆŸÛǪÀ ȻØöäş

[illegible] .(Swerczek, 1980) [illegible]

[illegible]

[illegible] 260 [illegible] %23.5 [illegible] 4 [illegible] (32) [illegible]

(CDC, 1992)

(CDC, 1989)

986 (%71.5) 7.5

(45)

(31)

Æęş ÜøζĒÛŸö ȷÀÀØŸö ĬøÆÔŋ ĞŸÒÎŋ ǰǪÀţä ȷÀÀØöä ğÀęĸöä ÒǪǭ Ż ·¢ǩζŋ ÆĦæ ¢ŸŋÀÒæ ȸəÀÒöä ·ȖŐĒÌζöä ȴȶÊǪöä ȸŋ ğζȶǪö ğÀęĸöä ȻØŁ ȸŋ ÜŐζ ĞŸĒŸę ğÀęÀÀ ţŸǪæɍ ȝÀǪƠ ĞÛĜöä ȷÜ øÆę ÿÀÊDZÜ ȸŋ Ȥ8Àöä ŎõüǨ ÀŒÜ ȝøäÆöä ƙæ ğÀĒÌÀÀöä ȸȝ ĶÀÀDZÜ ȖøǪöä ǫÀШɉä ğÀȚşÜ ·ĝĸ8Ôöä ğÀφäζĒΣä

ÆÀȝ ȖŐĒÌζöä ȴȶÊǪöä ȸȝ ĞĒəÀæş ĞęŸȝ ÆüζǪǨ Ɓ ·ôÀţä ğÀĒəÀæş Ž ğÀφäζĒΣä øşǻ ·Ɔäζ ĒΣä äãƎöä ȸŋ ᴬ ÜȶÀöä ȸŋ ĞĒŐĒÌζöä ĞĒȜÛţä ţäζǪÜ ğåÀÀǪèä ·ğÀφäζĒΣäş ÀÎĜöä ĶǨÀŋ ȖøǪöä øÀŐæɉä ÆĜõş ɁĦŋ Ž ᴮş ᴬ ƙÛȶÀöä ȸŋ ȖŐĒÌζöä ȴȶÊǪöä ğÀæşÀÒŋ ğÆDZşş Àŋ äØŁş ·ĞĦɹĒĦɹò äŸÒö ȴŢĦöä ȖŐφş ɁĦŋ ȸŋ äşÀÒţä åÀÀɸèä ÀȶõÀ ·ɁÀnÜ äÀĜèÜ ȸŋ ĞĒȜÛţä øÀÎǪφäş ŎŐÀæ ÿÆơş äşÀÒȶŸö ĞŸþ ğÀφäζĒΣä ȻØŁ ȷζÒǨ ȷÜ òÀȶǪǵä ƂÜ ĸÎÀ ·ÀnÜ ƂÜ ȷÀÒŋ ȸŋ ĞĒŐĒÌζöä

ĬȝÀÀęÜ ÀȜõɉä ĞÆĒĜöä ·ĞÀƎǪÁţä ğäøÀĜǪǹɍÀæ ɃÀÀÊöä ÒĒÁÎǪöä ÆõúÀ ȷÜ Ƶ ·ÒĒÁÎǪöä ǵåÀţäş ǵÆĦţä ğÀζǪȚ ÒĦɹÀǨ ȷÜ Ƶ ÀȶõÀ ·ȒÀÀţä ŎÔŋ Ž ĞĒŐĒÌζöä ȷÀÀæ åζDZş ȖŁ ¢ĜǪÎţä ÿÀĦÛöä ţøÂÀ ȷÜ Ƶ ·ȷÀÀØöä ȸȝ ĬȜШ ¢æ ¢ĜǪÎŋ ÿÀĦÛö ƙȑÀĦţä îÀÁÌǪö ĞÀäãƎöä Ž ȝĒȑÀöä äãÀæ ȸŋ ȷÀÀØöäş ŎŋÀĦöä åäÀÀǪèɍ ĞõşÀȚ ğÀDZ ·äşÀÒţä 8äÀĦǪèäş åäÀÀǪèɍ ¢æ ÀǪȶţä ĞÊÀÀÒŋ øÀĜǪǹä øζü ·ŎÔţä Ž ȤÎǪÒÀ ÀƜ ĬøåÀφ ȷÀÀØöä ȷɉ ÛȖŸÀÛöä ȖŐĒÌζöä ȴȶÊǪöä ŎöÆ ȷζÒÀ Æęş ·òÀÀüɉä äãÀæ ȸŋ ğÀĒȝ Ž ᴮş ᴬ ȷÀÀØöä ȤÎÒö ȻÀφɋÀæ ÜĜǨÀţä ȖȝÀÀţä ȝęζǪţä üÎÀţä ζŁ Àŋ dzÀDZ ȷζÒÀ ÀŋÆÀȝ ·(10) ĞÀÀÀÊöä ȝæÀȶÀöä Ž ɃÀƠ øÀĜǪǹÀõ ĬĒĒÀŋ ȖDZζöζÀÀǪÒĜöä ÒĦɹÀŸö ğÀȝÂǹ öäÀDZÜş dzÀƨä ȸŋ ŎəÀè 8ÀÎǨøä ȴǪÀ ȷÜ Ƶ ȴȶÊǪŸö ·(ȖȶĒǪäÀƨä)

ÆĒŸĦǪöä ğÀĒŸȶȝ ĞĜęäÀŋş ȴĒŢÀǨ (ü) ·ȖŸÀÀŋ ȷÀÊφǫä ÆÀȝ ĞĦɹζÀÒţä öäÀDZÜ ȸȶȒǪǨ ·ĞĦɹζÀÒţä ÆĒŸĦǪöä ÀüÀƯ ǴĒȑζǪö ȖĦɹÔöä ȤĒȜǪöä (ā) ·ĞȶĦüɉä ŞÀǵ ğÀĒŸȶȝş ĞĒȝÀÀÔöä ĞÀĜĦǪöäş ĞDZøåş Ü8ȑş ǵÆŋ ŎȜŋ ĞĒõÀøÀţä ğÀDzǪÀţä ŞÀǵ Ž ĞȶȚţä ŎŋäζĦöÀæ āÀÀöä ĞĒȝζǪöş ƃÀøÀţä ğÀφÀÀØöä ÆÀÀÅǪö ÀȚŢÀǵ ŎĜę ĬĒõÀøÀŋ ĞĜŸĦţä ĞȶĦüɉä ɁŸ8ǩ ȷÜ Ƶ ·ȴĒŐĦǪöä ĝøäÀǵ şÜ ÀȚǪĦɹəäø şÜ ÀȚȶĦü ĸ8ǩ ȖøǪöä ĞȶĦüɉä ŎõÜ ÿÆȝ Ƶ ·ĝøäÀΣÀæ ĞæζÛȝ ȖŁ ȖøǪöäş

[illegible]

## [illegible]

Arnon, S.S. Infant botulism: Anticipating the second decade. *J Infect Dis* 154:201–206, 1986.

Aureli, P.L., F.B. Pasolini, M. Gianfranceschi, *et al.* Two cases of type E infant botulism caused by neurotoxigenic *Clostridium butyricum* in Italy. *J Infect Dis* 154:207–211, 1986.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bienvenue, J.G., M. Morin, S. Forget. Poultry litter associated botulism (type C) in cattle. *Can Vet J* 31:711, 1990.

Blood, D.C., O.M. Radostits, J.A. Henderson. *Veterinary Medicine*. 6th ed. London: Baillière Tindall; 1983.

Castro, A.G.M., A.M. Carvalho, L. Baldassi, *et al.* Botulismo em aves de postura no estado de São Paulo. *Arq Inst Biol* 55:1–4, 1988.

Cato, E.P., W.L. George, S.N. Finegold. Clostridium. *In*: Sneath, P.H.A., N.S. Mair, M.E. Sharpe, J.G. Holt, eds. *Bergey's Manual of Systemic Bacteriology*. Vol 2. Baltimore: Williams & Wilkins; 1986.

Ciccarelli, A.S., D.F. Giménez. Clinical and epidemiological aspects of botulism in Argentina. *In*: Lewis, G.E., Jr., ed. *Biomedical Aspects of Botulism*. New York: Academic Press; 1981.

Concon, J.M. Part B: Contaminants and additives. *In*: *Food Toxicology*. New York: Marcel Dekker; 1988.

Dezfulian, M., C.L. Hatheway, R.H. Yolken, J.G. Bartlett. Enzyme-linked immunosorbent assay for detection of *Clostridium botulinum* type A and type B toxins in stool samples of infants with botulism. *J Clin Microbiol* 20:379–383, 1984.

Divers, T.J., R.C. Bartholomew, J.B. Messick, *et al.* *Clostridium botulinum* type B toxicosis in a herd of cattle and a group of mules. *J Am Vet Med Assoc* 188:382–386, 1986.

Giménez, D.F., A.S. Ciccarelli. Another type of *Clostridium botulinum*. *Zentralbl Bakteriol* 215:221–224, 1970.

Giménez, D.F., A.S. Ciccarelli. *Clostridium botulinum* en Argentina: presente y futuro. *Rev Asoc Argent Microbiol* 8:82–91, 1976.

Giménez, J.A., M.A. Giménez, B.R. Dasgupta. Characterization of the neurotoxin from a *Clostridium baratii* strain implicated in infant botulism. *Infect Immun* 60:518–522, 1992.

Hall, J.D., L.M. McCroskey, B.J. Pincomb, C.L. Hatheway. Isolation of an organism resembling *Clostridium barati* which produces type F botulinal toxin from an infant with botulism. *J Clin Microbiol* 21(4):654–655, 1985.

Hatheway, C.L., L.M. McCroskey. Laboratory investigation of human and animal botulism. *In*: Lewis, G.E., Jr., ed. *Biomedical Aspects of Botulism*. New York: Academic Press; 1981.

Hauschild, A.H. *Clostridium botulinum*. *In*: Doyle, M.P., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Ingram, M., T.A. Roberts. *Botulism 1966*. London: Chapman & Hall; 1967.

Kravchenko, A.T., L.M. Shishulina. Distribution of *C. botulinum* in soil and water in the USSR. *In*: Ingram, M., T.A. Roberts, eds. *Botulism 1966*. London: Chapman & Hall; 1967.

Lobato, F.C.F., M.A. de Melo, N. de Silva, J.M. Diniz. Botulismo em bovinos causado pelo *Clostridium botulinum* tipo B [letter]. *Arq Brasil Med Vet Zootec* 40:445–446, 1988.

MacDonald, K.L., M.L. Cohen, P.A. Blake. The changing epidemiology of adult botulism in the United States. *Am J Epidemiol* 124:794–799, 1986.

McLoughlin, M.F., S.G. McIlroy, S.D. Neill. A major outbreak of botulism in cattle being fed ensiled poultry litter. *Vet Rec* 122:579–581, 1988.

Morris, J.G., J.D. Snyder, R. Wilson, R.A. Feldman. Infant botulism in the United States: An epidemiological study of cases occurring outside of California. *Am J Public Health* 73:1385–1388, 1983.

Oguma, K., K. Yokota, S. Hyashi, *et al.* Infant botulism due to *Clostridium botulinum* type C toxin. *Lancet* 336:1449–1450, 1990.

Pan American Health Organization (PAHO). Botulism in the Americas. *Epidemiol Bull* 3(4):1–3, 1982.

Prévot, A.R., A. Turpin, P. Kaiser. *Les bactéries anaérobies*. Paris: Dunod; 1967.

Riemann, H. Botulism: Types A, B, and F. *In*: Riemann, H., ed. *Food-borne Infections and Intoxications*. New York: Academic Press; 1969.

Sakaguchi, G., I. Ohishi, S. Kozaki. Purification and oral toxicities of *Clostridium botulinum* progenitor toxins. *In*: Lewis, G.E., Jr., ed. *Biomedical Aspects of Botulism*. New York: Academic Press; 1981.

Schocken-Iturrino, R.P., F.A. Avila, S.C.P. Berchielli, *et al.* Cama de frango contaminada con toxina botulínica. *Ciencia Vet Jaboticabal* 4:11–12, 1990.

Smith, L.D. Clostridial diseases of animals. *Adv Vet Sci* 3:463–524, 1957.

Smith, L.D. *Botulism: The Organism, its Toxins, the Disease*. Springfield: Thomas; 1977.

Smith, L.D. The occurrence of *Clostridium botulinum* and *Clostridium tetani* in the soil of the United States. *Health Lab Sci* 15:74–80, 1978.

Sonnabend, O., W. Sonnabend, R. Heinzle, T. Sigrist, R. Dirnohofer, U. Krech. Isolation of *Clostridium botulinum* type G and identification of type G botulinal toxin in humans: Report of five sudden unexpected deaths. *J Infect Dis* 143:22–27, 1981.

Sonnabend, O.A., W.F. Sonnabend, U. Krech, *et al.* Continuous microbiological and patho-

logical study on 70 sudden and unexpected infant deaths: Toxigenic intestinal *Clostridium botulinum* infection in 9 cases of sudden infant death syndrome. *Lancet* 2:237–241, 1985.

Spika, J.S., N. Schaffer, N. Hargrett-Bean, *et al.* Risk factors for infant botulism in the United States. *Am J Dis Child* 143:828–832, 1989.

Suen, J.C., C.L. Hatheway, A.G. Steigerwalt, D.J. Brenner. Genetic confirmation of identities of neurotoxigenic *Clostridium baratii* and *Clostridium butyricum* implicated as agents of infant botulism. *J Clin Microbiol* 26:2191–2192, 1988a.

Suen, J.C., C.L. Hatheway, A.G. Steigerwalt, D.J. Brenner. *Clostridium argentinense* sp nov; a genetically homogenous group of all strains of *Clostridium botulinum* toxin type G and some nontoxigenic strains previously identified as *Clostridium subterminale* and *Clostridium hastiforme*. *Int J Syst Bacteriol* 38:375–381, 1988b.

Swerczek, T.W. Toxicoinfectious botulism in foals and adult horses. *J Am Vet Med Assoc* 176:217–220, 1980.

Terranova, W., J.G. Breman, R.P. Locey, S. Speck. Botulism type B: Epidemiologic aspects of an extensive outbreak. *Am J Epidemiol* 180:150–156, 1978.

Thomas, R.J., D.V. Rosenthal, R.J. Rogers. A *Clostridium botulinum* type B vaccine for prevention of shaker foal syndrome. *Aust Vet J* 65:78–80, 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Botulism in the United States 1899–1973. Handbook for Epidemiologists, Clinicians, and Laboratory Workers*. Atlanta: CDC; 1974.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Wound botulism associated with parenteral cocaine abuse. *MMWR Morb Mortal Wkly Rep* 31:87–88, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). International outbreak of type E botulism associated with ungutted, salted whitefish. *MMWR Morb Mortal Wkly Rep* 36:812–813, 1987.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Outbreak of type E botulism associated with an uneviscerated, salt-cured fish product—New Jersey, 1992. *MMWR Morb Mortal Wkly Rep* 41:521–522, 1992.

Ying, S., C. Shuan. Botulism in China. *Rev Infec Dis* 8:984–990, 1986.

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# BRUCELLOSIS ŀűĭƨǋƥǦǁƐ ƀƐǭ

ƀƐǭ **A 23.1** *ÛŀĭƲǁƑǅǁƐ ŀǂĭƨǋƥǦǁƐ* ǅŽY !ɯƑǆǁƐ ŀűĭƨǋƥǦǁƐ ƀƐǭ **ICD-10 A23.0**

!ɯƑǆǁƐ ŀűĭƨǋƥǦǁƐ ƀƐǭ **A 23.2** *ÛŀŢŊŲŰǅǁƐ ŀǂĭƨǋƥǦǁƐ* ǅŽY !ɯƑǆǁƐ ŀűĭƨǋƥǦǁƐ

*ŀĭǦǂ/ǁƐ ŀǂĭƨǋƥǦǁƐ* ǅŽY !ɯƑǆǁƐ ŀűĭƨǋƥǦǁƐ ƀƐǭ **A 23.3** *ÛŀĭƥĭŘǆǬǁƐ ŀǂĭƨǋƥǦǁƐ* ǅŽY

**ICD-10A23.0 brucellosis due to *Brucella melitensis*; A23.1 brucellosis due to *Brucella abortus*; A23.2 brucellosis due to *Brucella suis*; A23.3 brucellosis due to *Brucella canis***

ÛǦŁÛőÀţǟ ʔŧΣǟ ÛǦǅǅǫŧǪţǟ ʔŧΣǟ ÛMelitococcosis ĞŶÊȞöǟ ğǟøǫÒţǟ ŏǟǻ ˙ğÀǫǻǟÀţǟ

[illegible] Contagious [illegible] epizootic [illegible] infectious

[illegible] neotomae [illegible]

[illegible] A [illegible] biovars (3-1) [illegible] M [illegible] 8 [illegible] 7 [illegible] (7-1) [illegible] (5-1) [illegible] 9 [illegible] 7 [illegible] Dyes [illegible] $CO_2$ [illegible] $H_2S$ [illegible] (57) [illegible] (11 [illegible] 22 [illegible] 32) [illegible]

(1985) [illegible] biogroups [illegible]

[illegible]

[illegible] (Neotoma lepida [illegible])

[illegible] (1975 [illegible]) [illegible]

[illegible] 7,893 [illegible] 100000 [illegible] 74) 1987 [illegible] 8 [illegible] 1987 – 1979 [illegible] 250000 [illegible] 1988 [illegible] (100000 [illegible] 13) [illegible] 71.051 [illegible] 6) [illegible] 5003 [illegible] 1989 [illegible] 80000 [illegible] 3) 1989 – 1986 [illegible] 1990 [illegible] (100000 [illegible] .(100000 [illegible]

[illegible]

[illegible] 600 [illegible]

[illegible] 3 [illegible] (50) [illegible] 1954 [illegible] hares [illegible] 2 [illegible] (*lepus europaeusi*) [illegible] (84) [illegible]

[illegible] 1 [illegible] 2 [illegible] 3 [illegible]

[illegible] (64) [illegible] [1] [illegible] 1987 [illegible] (24) [illegible] (20) [illegible]

[illegible]

[illegible] 59 [illegible] %12 [illegible] (34) [illegible]

[illegible] [2] [illegible]

[illegible]

ȯɀǹấ ĶĞŸÛǩ ĞȶÏǹş ğɍİǵ ōÅǺȽ ȡȮö ÛǴȒȚŐï ĞŸÏèşƎöï ȡȵ ŌŌΣä Ƀøäøæ ȡȝ ȽDZÅÅöä ÆÅȝ ȯİΣä ɀȽ ÅȶŏˉğŸÏèşƎŸö ĘæÅÊöä Ž äɀȓÅǨǩ ȡÅǾöä ȋÅÅȉɉä ÆÅȝ Åȵǚ ·ʔÅȊǪÊţä Ɓǘȵ ȳøɀǪæ ÂÏȶǪǩ ÙȶÅöä ĞÏDZøǚ ĞÅŸǪƯ ĞȵäŸǪȵ ÅȚȚǪɀˉǥåÅȝ dzÅŌŸöä äɀÛǨȵş ƙÅÅÛÏĞöä ŏÅĞùɉä ŌŸǪö ĞŏÅȊȵ ĞÏȝɀȶf ôäÅȝǚ ȡȵ ȒÅÅţä ɄøǬÅǨÅ Æȩ ğÅȝÅè ȝȒæ ÆǨæş ÛĠÏŌŸǪöä ȷÅȮȵ Ž ȳÅÅǚ ȯŸǹ ôäÅȝɉä ÆȶƠ ·ĘæÅè ôÅǨǩ ȷşấ [19] ĞÅøǾöÅæ ȡÅÆǨÅţä ȋÅÅȉɉä ÆÅȝ Ğɀɀŏɀţä ʔÅǹǚ ĞǪåÅΣ ŎÅȊöä ôÅǨǩ äæǚ ĞȵÅǨöäş ĞǨȓɀţä ôäÅȝɉä ȝDZÅǩ Æȩ ·ÅŒşấ şǚ ĞɐÅǨţÅæ ĞŸÏŸȩ ƙÅŸȵ øÅĞǪȝɍä ƙǨæ ÅǬǾǹǚ äæǚ ĞȶÏȩ ğäǾæ ÈÏö ĞÅøǾöä ȻǾȽ ĞDZÏǪǬ ôÅţä ţɀȩş ȯÆǨȵ ·[95]

·ɃÅǨöä Ǝȝ ĞÅè Ōõ ĶÏÛȝǚ ɄøǪöä [19] ĞÅøǾöä dzÅŌö ȡȵ ğÅȝÅɐä

ˉ Rev1 *ĞÏÛöÅţä ĞŸÏèşƎöï* ɄȽş ˉ ǥĶ8Ôöä ğäÅǪŎä ĠÏŌŸǩ Ž ȳÆÅǪÊǩ ʔÅǹǚ ĞÅøǾö ȡȮɀ ĞÏţÅǨöä ĞǶÔöä ĞȶȚÅȵ 8äÅȉǚ ĶƠ Rev1 dzÅŌö ɄÛȝǚ ·ʔşÆǨöÅæ dzÅŌŸöä ɄÛǨȵ ÆÏÔǩ ȷǚ 6 ĠŌö ·1977 – 1974 ɄȵÅȝ ƙæ ÅÏöɀ8Åȵ Ž ȷäɀÏǵ ƙÅŸȵ ĶÊö ÅȚǨȵ ĞǬşÅǨǪţä ÂõäÅţäş ÆǨæ äɀÅȉş ĞÅÅÅè ôäÅȝǚ ȽȚÅȵ ĞǨæøǚ ÆÅȝ ÅȚş ·ôøÅȝ ŌȮȊæ ȽȚÊÅǬǚ ƙæøÆȵ ƙǶŌŸȵ

·ʔÅȊǪÊţä Ž ĞÅøɀɀ ĞɐÅǨȵ

ȡùɀǪȵ ğŸÏèşƎöä ŏäấ ÅȚÏɀ ĘùÅÅȵ Ž ôäÅȝǚ ȷşấ ǫÆƠ ʔşäÆǨöä ȡȵ ÆÅÆǨöä ōÅǺȽ

·ɃÅŌĞöä ŌȮȊöä ĞŏÅǹ ğÅǬäɀÏΣÅæ

ȡȵ ȵȵ 900 - 600 øö ɄȵɀÏöä ŏÅÛȝǚ ɄȽ åÅΣä ğŸÏèşƎöä ŏäÆö ǥǾĞɉä ĞɐÅǨţä ŌȝÅÅǩ ǫÆǵ äæǚş ·Ōȩɉä ʔŸȝ ȝÏæÅèǚ 6 ǥÆȵ ƙŸȮÏÊÏÊõşÆöä ȡȵ ȵȵ 200 ȝȵ ƙÊÏĞȵÅÅÅÅöä ȯşÂÏǩøɀȮöä ŏÅÛȝǚæ ʔŏɀÅ ȼǬǚɀ ĞÅɀÏΣä ğäåÅȒţÅæ ĞɐÅǨţä ŏÆæ ÆÅȝ Åɀ ÅȚÊȮÏȽ ȊÅøÅÅ ğäåÅȒţÅæ ĞɐÅǨţä ȡȮǩ Ɓ äæǚ ·ĞɐÅǨţä ȡȵ Ğȝɀ ÅǪȵ ĞŸÊŸè ÅǬÅÏǥǚ ÅȵɉäȝÅǪȝ Æȩ ·ÅÅÆÅøş ȡȝ ĞȚÅÅöä ʔşäÆǨöä Ž ĞŏÅǹ ÛʔşÆǨöä ȡȵ ĞÅȵÂȵ ǥøǘæ ȡȝ ǪǶĞöä Æƶ ĞǶDZÅǬ ĞÅɀÏΣä ĞɐÅǨţä ǥåÅȝǚ Æƶş (1986 ĞÏţÅǨöä ĞǶÔöä ĞȶȚÅȵ) *ĞÅÅÅÂøÅȴä ĞŸÏèşƎöäş ĞÏÛöÅţä ĞŸÏèşƎöï* ĞÏȶÊöä (ȒȽÅÅǩ şǚ ÈõÅǨǪö) åÅȒǪö ğäÆÅşĶǪÊöä ʔÛǨǩ Æȩ ÛÈȮÅöä ĞöÅǵ Ž ȻŸȝǚ ǥøɀõǾţä ·[14] ǥÆȊæ ƙŸǪǨţä ʔȓÅţä Ž

ȝäÅǹqä şǚ ôÅȚDZqä ɀȽ ĞÏǬäɀÏΣä ţäɀǬɉä Ōõ Ž ɄÊÏɘÅöä ôÅǨöä ·ğÅǬäɀÏΣä Ž ôÅţä

[illegible] Pathogen [illegible] %80 [illegible] (84) [illegible]

[illegible] 200 [illegible]

[illegible]

[illegible] epizootiology [illegible]

[illegible]

[illegible] Reactors [illegible] %25 [illegible] %10 [illegible]

[illegible] (*Lepus eurpoaeus*) [illegible]

[illegible] [52] [illegible] [73] [illegible] anestrus [illegible]

ȸÒţş ·Ïŋζ ¹⁵⁰ ȸŋ Äǯõǚ ğɍÀΣä R̀Hǽ Ž ʔşǼȞöä ÿşǼǩ Ǽę ·ǥøắǺφ ǼŸõ Бǚ ǼŸõ ǦŸĞƬţä Àőäàǚǚŋş ÀĿäǚǽş ÀƬζǽ Ž ğŸľèşƎöä dzǞÛǩ ȷǚ ¯ øắǺφ Ǭöǽ ȷǚ ʅʠø ¯ āŸȮŸö ŏäắ ÀƬĿζ ǦĿỉÀȶŸö ğÀȮŸǪư ¹⁰ ȸŋ ĪĞŸõ ¹⁴ äǼǺõ Ž ǨǺǞDZǚ Ǧèäøắ ǨȞƤ ·ǦȒƬŎä ǦǺDZɟäş ǼŸõ Ž ǦφÀǯţä ȸŋş ŌĞƬţä ǦĿüÀƯ ȸŋ Ǧǽƶǚ ţşøä ʔŸʒ óζÔΣä Ź ·ɃǞŌĞöä ğŸľèşƎöä ȸŋ Ïŋζ ⁴⁶⁴ ǼȞǽ ǦĿŸĞƬţä ğäǚǞζqä ȸŋ ǥǨǹɟä Ǧǽƶqä ǦǺĿȞöä ʔŸʒ óζÔΣä Ź Ǽęş ·Ǽǵäş ȸŋ ʔǞǹɟä āŸȮöä ȸŋ ğŸľèşƎöä ğắǚǪëä ·ʔşǼȞöǽ ǼŸȮöä Ǧǽòɋ ŌȶǪǂä ǸǺøǺǪöä ʔşǼȞöä øǼÔŋ ȷÀõ ǦǞÎǽ ğɍÀǵ ǥǼʒ ǨÀòş ·⁽³⁵⁾ (ǦĿĞöä) ǙĿǂä Бǚ dzÂøǺǩ ɍ ŏÀȒʒǚ ·(ǦǺDZɟä Ǧòǹ) āŸȮöä ζĿ ÀƬĿζ

= ȣäζÊöä) ǦĿäζè ȌǝÔǹ Бǚ ŌÔǺ Ǽę ɃØöäş ĪţÀʒ ϙǼʒ ɃØöä ɄøĞŸȮöä ôǞţä ğŸľèşƎöä ŏäắ ȸŋ ȮȮÎöä äØĿ ÂĿȶǪǺ *·ǦĞŸȮöä ǦŸľèşƎöä* ȸʒ ʅDZǺǺöä ζĿ (Ɔäζ ĿΣä ŏǺǽζöä ǸǽƎöä āÀƬǪöäş ǦǨǺǪèşƎöä āÀƬǪöäş ğÀȓ ÀƬDZǚş ƙǺɞä ğζŋ ʒŋ ʔƥ ȷşắ ÿǼŸö ǼǺǼŋ ŻǞDzǪǽ ÿζĿöä óζǵ ôÀƬDZqä ϙǼʒ ·óÀȞɄÛöä āÀƬǪöäş ǦĿǺȶŸöä ǼŎȞöä āÀƬǪöäş ȸǺÔöä ǼŸDZ āÀƬǪöäş ʔŎĞǺ ȸŋ Ǽǚʒ ǼDZζǺ ·ÿǺüǽ ǥắɍζöä ǼȞǽ ğζɋ şǚ ÛŌȶΣä ÿǺȶǪǽ ŏǞɞä ȌŸɋ Ǽę ·ŌȶΣä ȸŋ ⁵⁰ ·ÿǼöä ŻǞΘ ǼDZζǺ Ǻŋ ĪĞŏǺʠş Ûǥắʒ ǦĿǺȶŸöä ǼŎȞöä ǦŋǞÁȓ Ĭǵ

ÛĬǺǼȞǺŋ ĪĞŸõ ¹⁸ øǒ ǦĿĞǞΘ Ǧɞ ÀȞŋ Ž (Ĭŋζ ƙǨǞŋ ŋõ/ŋŋ ²⁷·⁵) ƙŸȮĿèζĿţä ɄÛʒǚ ǼȞǽ ²⁸ ţζĜèɟäş ⁶ ţζĜèɟä ƙǽ ɃǞDZǚ ɃØöä Ǭǯɞä ȌHζ Ž Ǧǽƶǚ ţşøä ÀƬǺŋ ¹⁵ Ǽʒ ·(WHO 1986) Ǧɞ ÀȞţä ǦǺǞŒ

ğǼõζǩ ·ǦǺǼĿŸŌǪöä ğŸľèşƎöä ȸŋ Ōęǚ ǦDZøǼǽ ȸÒǒ *ǦĞŸȮöä ǦŸľèşƎŸö* ǼȞǪÊŋ ȷÀÊφqä Ž ƙŸŋÀȞöäş ƎǪÅţä Ž ƙǪǞDZøɟäş ŌǺäǚƎöäş ǬĿÊȮţäş ǥǼHǪţä ğÀɍζöä Ž ğɍÀǵ ǥǼʒ ·ǦǺǼȞǺŋ āŸõ ʒŋ ğŸǝʒ ȸŋ ŏÀȒʒǚ Бǚ ǦζÀȓqǽ Û āŸȮöä øÀDZş ·ɄȞĿĞÛöä ôǞţä ȸŋ ğɍÀǵ ϙǼƠ Ɓ Ǭöøǒ ä Û*ğŸľèşƎŸö* ǦŋşÀŌŋ ǙÛŌöä

âζŋÀɞä Ž *ǦȒƬŎä ǦŸľèşƎöä* ȸʒ ʅDZǺǺöä ğŸľèşƎöä ŏäắ ϙǼʒ ·ʔǞǹǚ ǦǺDZäắ ğǺĿǼǼǪ ʒŋ (*Bos grunniens*) (ʅǺȒöä ǨĞĿǪöä øζǪ) Yak ŏǺŌÎ ʅäş (*Bubalus bubalis*) *ȸDZäǼöä Ōȶɞä*) ǤǼŌöä ƁǺȞöä óÀƤ Ž ôǞţä ǼĿζì Àȶõ ·ǦĿìÀţä Ž ǥǽζDZζţä ǬŸǪö ǦŏÀÎŋ ôäǺʒǚ

*ÁĬgźζöĭ ŐŧƨăĪ)* ƟøăÀĬĤöă ŐŧƨăȘ ("*ƙŋĬĺè* *Ș*ǽ *ŐP*" Camelus bactriianus *ƟèζȝÀÖöĭ*

ȯÀŧƨă ĞŸĿÔζ Ž ʔȘÆĬĤöă ʈDZĀǩ ·ĞĿȮÀÀŋǰă ȯÀŧƨă ĞŸĿÔζȘ (Camelus dromedarios *ŷĬĺÊöĭ*

ȸŋ ĞĿìÀζ ĶǫÆǵ ·(2) *ĞȒȚȮĭ ĞŸĿèȘƷöĭ* åăÀÀǫèă ʈȡø ÛƟÊĿǝø ŌȮÎǽ *ĞĿÛöĬʈă ĞŸĿèȘƷöĭ* ȸȝ

ğÀȓÀŦDZÜ ȝŋ ĞŐζăÀǫŋ Û[1] ɃζĿΣă āÀȒöă ȸŋ *ĞĿÛöĬʈă ĞŸĿèȘƷöĭ* ȸȝ ʈDZÀÀöă ğŸĿèȘƷöă ŏăå

(*Lama pacos*) (ȣȘÀʅÀǽ ȼĿĞì ȷăζĿǵ) alpaca ŎŋÀÖöă ĞĿǽÀǫŏ ĞȝøÂŋ Ž ȷăÆöζöă Ž ğÀĿζȘȘ

·(1) ĞȝøÂʈă ŌŸǩ ȷÀȮè Ž ǥĶÛǹ ĞĿìÀζ ĶǫÆǵȘ ÛȘĶĞöă Ž ĞĿöÀĤöă ĞĞȒȚă ĞŐÛÀŋ Ž

ȸŋ ȝèăȘ ʔÆŋ Ž *ĞŸĿèȘƷöĭ* ȸȝ ĞƤÀÀöă ĞĿĤĿĞÛöă ʔȘăÆĤöă ǫÆƠ ·ĞÀƷöă ğÀǫăζĿΣă

Ž ŏăÀĦÔöă ȷăǽÀDZ ƙǽ ·ȯÀǯʈă ŌĿĞè ʔŸĤζ ÛʔȘÆĤöă ȸŋ ĞĿĤĿĞù øúǽ ōÀÀȽ ·ĞÀƷöă ğÀǫăζĿΣă

ğåÀÀǫèă ·*ĞĬǽȘĶƨă ĞŸĿèȘƷŸŏ* ĬȝåζǫÊŋ ŌȮÎǩ Ɵøǫöă Ș (*dzÀʈă ǽȘĶƨăĪ*) ǥÆĦǫʈă ğÀÀɍζöă

*ÛŌĿǫǰă ŷζǫÊʈăĪ)* ÀĿÆĿŏ Ž ỗøăζŌöă ȸŋ ƙȝζǫ ȸŋ [3] ɃζĿΣă āÀȒöă Û*ĞĬÀĬÂøĬʅă ĞŸĿèȘƷöĭ*

Ž ĞŸĿèȘƷöă ȸŋ ȷɇă ʔøǫǵ ĞÀÀÔŋ Ƙȡ ĞÀζĿǵ āȘÀȓ ÀĿöăÀǫèÜ Ž ÆDZζǩ ·(*ƟŸĬĀöĭ ǽÀƨăĪ*

ĬĿǝÆĞŋ ĶÀÀö ÆȩȘ ÛĞŸĿèȘƷöÀǽ ĞÀÆĤÀŋ ỗøăζȩ ăÀȩζŌöă Ž ğÆDZȘ · ỗøăζŌöă ȸŋ ǥÆÀÆȝ ʈăζǫÜ

ʔȘÆȝ ŌŌǫÀǩ ·Àǽ øȘÜ Ž ·[5] ɃζĿΣă āÀȒöă ȸŋ *ĞĬÀĬÂøĬǹ ĞŸĿèȘƷõ Ż ĞĬøŭζ ĞŸĿèȘƷõ*

ȸŋ *ĞĬÀĬÂøĬʅă ĞŸĿèȘƷöĭ* ʈåζǫÊŋ ŌȮÎǩ Ɵøǫöă Ș (*Lepus europaeus*) *ĞĬƷöĭ ǼǫăøǰĬ*

(*ĞĬĶÀĿƠÀöĭ ĞǫÀöĭĪ*) (ÀȮÀÀŋÜ ȯÀƽ Ž ŌÀǰă) ĞǫÀŸŏ ȸȮƺ ·ĞÀDZăÆöă ÀÀăÀÀʅă ƃÜ [2] ɃζĿΣă āÀȒöă

ŌŌÀǩ ȷÜ ¯ ÀȮèɍÜ Ž [4] ɃζĿΣă āÀȒöă ȸŋ *ĞĬÀĬÂøĬʅă ĞŸĿèȘƷŸŏ* ʈåζǫÊŋ ƟȽ Ɵøǫöă Ș ¯

ȸŋ ÈōÀĤʈă ȻÀƟɍă Ž ŌŌǫÀǩ ȷÜ ʔȘÆĤŸŏ ȸȮƺ Àŧõ ·ĞƨÂʈă āŸȮăȘ ȷÀÊǫȒŏ ʔȘÆĤöă

Ž ʔȘÆĤöă Ķŧƨ ǪĿǵ ƙǫDZøǰă ȯÀǵ ζȽ ăØȽȘ ·ĞÀƷöă ğÀǫăζĿΣă ƃÜ ĞDZăÆöă ğÀǫăζĿΣă

*Galictis*) Grisons ğÀǫȘÂÀÀȣöăȘ (82) (*Dusicyon gymnocerus D. griseus*) ǼöÀĤǯöă

Ž ʔȘÆĤöă Ķŧƨ ǪĿǵȘ Û[1] ɃζĿΣă āÀȒöă ȸŋ *ĞȒȚȮĭ ĞŸĿèȘƷöĭ* ȸȝ (*furax huronax*

ɃζĿΣă āÀȒöă ȸŋ *ĞĬÀĬÂøĬʅă ĞŸĿèȘƷöĭ* ȸȝ (*Lepus europaeus*) *ĞĿăøȘǰă ĞĬƷöĭ* ǼǫăøǰĂ

*ĞŸĿèȘƷöĬǽ* (*Didelphis azarae*) (ğÀĿÀǹζöă ȸŋ ȷăζĿǵ) ŷζÔǽǰă Ž Ɵøǫöă ŌŸǩȘ (83) 1

ǼÊǫȮǩ ·(25) 1 ɃζĿΣă āÀȒöă ȸŋ *ĞĬÀĬÂøĬʅă ĞŸĿèȘƷöăȘ* 1 ɃζĿΣă āÀȒöă ȸŋ *ĞȒȚȮĭ*

ƃÜ ʈǵɍ ȸŋ ŌŌǫÀǩ ʔȘÆĤöă ȷÜ ʔŸȝ ĞĿǽ ÆDZζǩ ɍ · ì ŸʅăȘ ĞDZǰă ŌõŭǽʔȘÆĤöă ʈǵăζŸöă

[illegible] (*Bison bison*) [illegible]

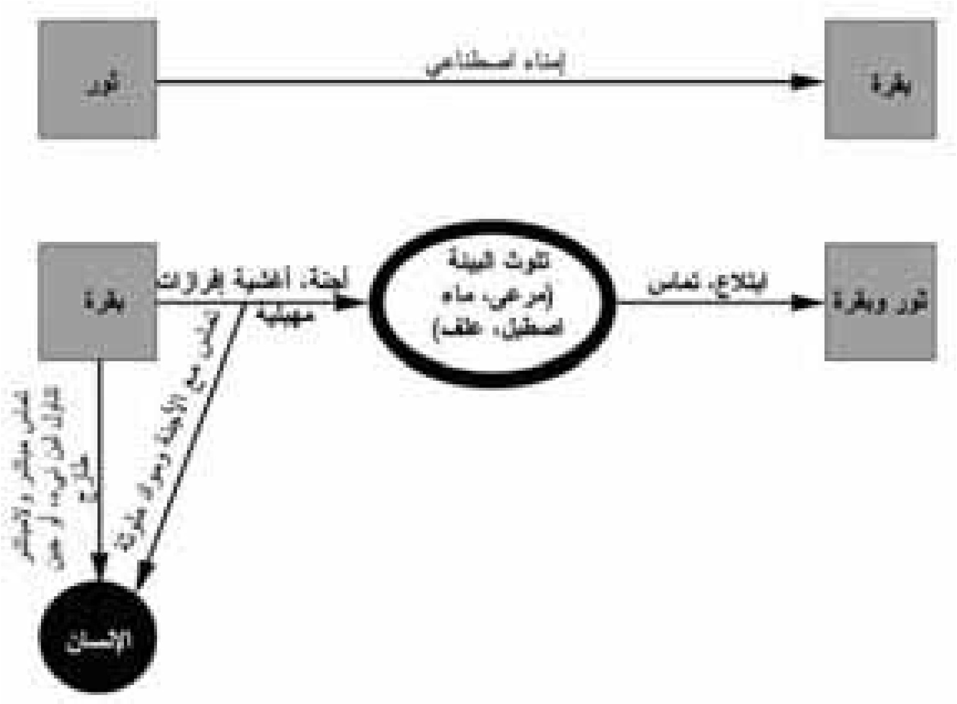
[illegible] coxal [illegible] 8 [illegible] 20000 [illegible] (67) [illegible]

[illegible]

[illegible] (*Tripanscorax* [illegible] (*Corvus corvix*) [illegible] *.fragilecus*)

[illegible]

[illegible]

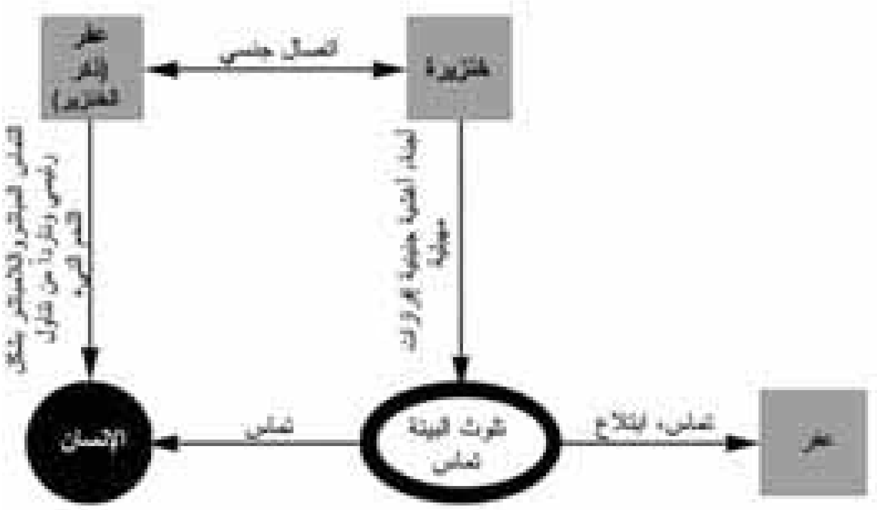

ثور
بقرة
بقرة
تلوث البيئة
ابتلاع، تماس
ثور وبقرة
الإنسان

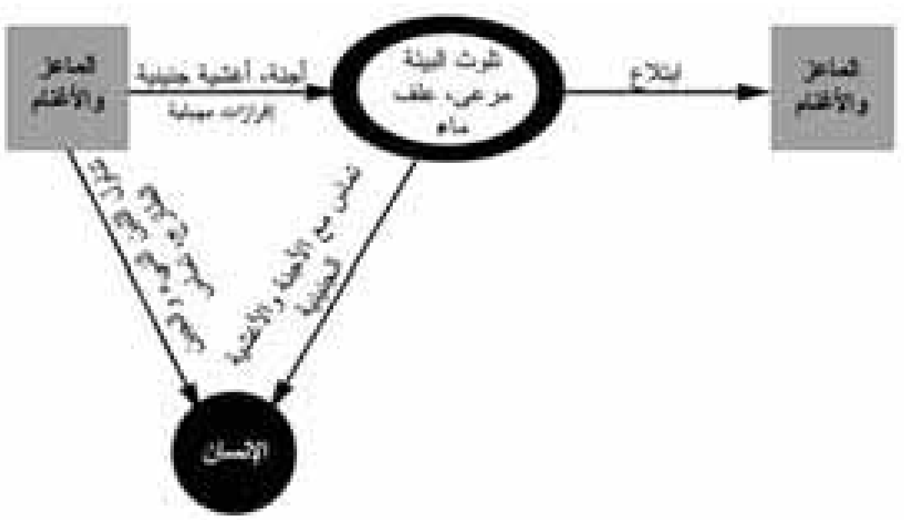
ÆĤæ ȣÀĤ Ɓş ·ȴȄŶÊöä ʔøǪǵ şǚ ĘŐÎǪţä ÆŶƨä àÀǪƸ Æę ɄΣä ȸəÀÒöä ȷǚ ÂȄĢÀÀΘ ƙǦǩ Æęş ·ǦȄĤȄǦÛöä ʔşÆĤöä Ž òÀŐǪφɍä ȸƞ äÀÛöä äØŁ ǦƵÀÊƞ ʔÆƞ

ȻØŁ ǰəÀǪφ ƘÎǩ ·ɄŶǦȚţä ĘÀÀÛöä ƎȝÂȄĢÀÀΘ ôÀţäş ʔşÆĤöä ȻƘdş âÜÀöä ÀĤì ϙÆǵǚ ȻØŁ Ǝȝ ʔşÆĤöÀæ ǥÀŐæ ÆȄÔǪő ǦÀøşÀȑ ğŸȄèşƎöä ȸƞ ÂƘǦõ ÂáÆȝ ȷǚ ƂǚÄøÀDzǪöä ȴȚƞ ŏÀƞqä Ž ÿÆǺǪÊţä ȴǵÀöä ŌǹäáĘÀÀÛöä ȷüæ Ȭì ɃǚÆDzƺÀ ɍ ·Ōõ ʔŶȝş ·ǦŶȄèƺöä ÛÂŁȚƞ øÀÛǪǹä ŌƞÀȝ ɄȝÀÀÛòɍä ŏÀƞȒö ǦÀÆĤÀƞ ȷäƘǫ ÿäÆǺǪèä ŌÒÎÀ ·ʔşÆĤöä ŌŐφ Ž ÂÆDZ ǦŐŶȣţä ğÀȄǦöä Ž ʔşÆĤöä ÀÎǪǩ ȷǚ ŌŁǪɨä ȸƞ ·ǥƘǰõ ȷÀĤÛę ƂǚÀÎǪǩ ȷǚ ȸÒƺ ʔşÆĤöä ȷɉ

·ɄøǦÀÀΘ ŌÒÎæ ŏäƺȚÀæ ǦőƺŐÀţä ʔşÆĤöä ğÆõüǩ ÆŐƺ Ûğ ÀæƺǦȒöä Ǝȝ Ž ǦæÀΘ ǨÀÀDZÛ ·(ȷƺŁÒöä) ŏÀÀʅä ǥÀŁÀş ʔŁÊÀ Àƞş ǦȄŐŶʅä ʔşÆĤöä ÂȒÀǚ ǨÀòş ǦȄöÀȝ ǦȝÀƛ ɄȝÀÀÛòä ŌÒÎæ ǦÀÆĤÀƞ ğäÀŐæ ȸƞ ǥáƺöƺţä òƺDzĤöä ŌÔƺ ÀȚȄƺ Ź (70) ÀÊφÀƺ ŏÀÀƞǚ Ź ÂÀȚì 16 ÀŁȝ Žş ·ǦõÀĤÀƞ ğäÆǵş Ž ǨȄæøş ÀőÀȚƞǚ ȸȝ *ǦȒȚŎï ǦŸȄèşƎöä* ȸƞ 5 ȷǚ ƙǦǩ ·ğÀÀÆĤÀƞ ğäÀŐæ ȸƞ ȷÆöş ǦŶDzȝ 55 ʔŶȝ ĀøÀΘ 6 Ž ·ÂȄȝÀÀÛòä ğŸDzĤöä Žş ·ȝȄæÀèǚ ǦǪÊæ ǸŶÊöä ÆĤæş/şǚ ǥáɍƺöä òŸǹ ğŸȄèşƎöä ğáÀÀǪèäş ÛʔşÆĤöÀæ ǨǦȄòǚ ǥÀŐǪÊƞ Ƙd ǨφÀõ ǦȄDZƺòşƘè ğäøÀȝ ğÀφäƺȄΣä ȸƞ ƙÀǪä ʔÆő ÆDZş ÂÀȚì 12ş 9 ÀŁȝ ʔøǪǵ ǦȄDZƺòşƘè ğŸȝÀÀǩ ğÀÀǹɟä ϙŸǰöä ğŸDzĤöä ÆÀȝ ÀȚȚǩ Ɓş ·ŌŁΣä ʔøǪǵ Æę ŏÀÀʅä ǥÀŁÀş ÀǩäƺǨ ȷǚ ǦæÀDzǪöä ʔŶȝ ȷƺƺÀÎţä ȣÀǪȝä ·(ŏÀÀǹ) ǶǪÀŒ şǚ ŌŁΣä ƵÔǪÀƞ ǴȄŐŶǩ ÀȚȄƺ ʔÀƶ ɄøǪöä ȷÀĤÛŐöä Žş ·ǦÀŶǪƯ ǦȄĤȄǦü ȣşÀş ǨƠ ÂÆDZ ÂȒÀǺÀƞ ȷƺÒÀ ȝÀøÀÎƞ ǨÀÀDZÛ ·òÀÒöä ÈÀφ Žş ·ȘĦŶǩ ȷǚ ȷşá ǥÀŁÀȚöä ÀǪƞ ÆŐƺ ȴȚǪÀƞ ŌÒÎæ òƺDzĤöä Ƙdş òƺÛƞ øƺù ȝƞ ĘƺäÀǪţä ğŸȄèşƎöä ŏäÆő Ƀáƺŧĥöä òÀŐǪφɍä ʔŶȝ (90 Û48) ʔÀǹǚ ǦȄǰǚ ȝÀǩÀƞ ŌÒÎæ ǦÀÆĤÀţä ȷÀĤÛŐöä ʔŶȝ ǨÀÀDZÛ ǦÀáÀĤǪèä Ǧèäøá Žş ·ʔşÆĤŶő ÂȄDZƺòşƘè ÀŁÀş ƘÎǩ ·ÂȄDZƺòşƘè ğÀȄäÀƶǚ ğäÀŐæ ȸƞ ǥáƺöƺƞ (%2.5) ǦŶDzȝ 317 ȸƞ 8 ȷǚ ÆDZş ·(90) ɄøäÀƶǚ ţøä ȝƞ) ɄĤȄǦü ŌÒÎæ ğÀÀÆĤÀƞ ğÀȚƞǚ ȸƞ ȷÆöş ŶDzȝ 150 ʔŶȝ ǨÀÀDZÛ Ǧèäøá ȷǚ ÛǥÆĤŁǪţä ğÀɍƺöä Ž ǦȄƺÀDZ ğÀɍş ϙŸǪ Ž ÂĤȄÛę 82 ȸƞ ğØǹÀş (*ǦȒȚŎï ǦŸȄèşƎŶő*

ɄÊÀƨä ǰȒÀöä ʔøǪǵ ǦõÀĤÀƞ ȸõÀƞǚ Ž òƺDzĤöä ǨȄæø ·ƘǦõ ÀäƺǪæ ϙÆƠ ɍ ŏÀÀʅä ǥÀŁÀş ŌŶǪő ÂȄȄőşş ÂÀÆÀDZ 95 ȸƞ ɍş ğÀÀÆĤÀƞ ğäÀŐæ 105 ŌÊφ ȸƞ *ǦŸȄèşƎöä* áÀÀǪÊǩ Ɓ ·ÀǪÀÒǪöäş


اتصال جنسي
خنزيرة
الإنسان
تماس
تلوث البيئة
تماس
تماس، ابتلاع



[illegible] (10) 3.65 [illegible] (BAPA) [illegible]

[illegible] (78) [illegible] 2 [illegible]

[illegible] (44) [illegible]

[illegible] BAPA [illegible]

[illegible] 30 [illegible]

[illegible] %15 [illegible] %85 [illegible]

[illegible]

[illegible]

[illegible] (49) [illegible] %0.5 [illegible]

[illegible] 2 [illegible] 2 [illegible] 1982 [illegible] sonicated [illegible] 6 [illegible] (M-) [illegible] 2 [illegible] (18) [illegible]

[illegible]

ƟÛ3ľ ÆÕζ :ƙÔöä Ž Åŋľ .(28) 19BA ĞΛøØöä фŋ ƟŁHЪì ÆΛÀÒè ÆΛÆ3 ȷζÒŋ фŋ ÅÆəÅŁÈÕ ĈØŁ ÿÆÅQÊǩ ғ .ÆŸƨä ĘΛÀÛæ 104 M ĞΛøØöä *ĞŔƮŎä ĞŸèşƎöä* фŋ фŁζŋ Ɵǵ dzÅÕö ÅÊφÅζ Ž ǵÆ3äş ğғşÅŢ ǨΛÀDZľ .ĞŸŁQŧä ĞĿĢφÅƨä øÅQǿä ÆĢÊæ ʔÀn̈ľ ȷäÆŸæ Ž ğÅǵÅÕŸöä .*ĞŸèşƎöä* фŋ ĞΛÆŔQÊŋ őäÂDZüæ

3ŋ ğÅφäζĿΣÅæ ĞΛùζQţä ĘùÅΛţä Ž ƁÀÕĢöä ğŸľèşƎöä őäá ĞHζÅÒţ ĠĿÕŸQöÅæ ʔòζΛ Æçş Û19 ĞΛøØöä - *ĞŔƮŎä ĞŸèşƎöä* фŋ ζŁ øÅQÅţä dzÅÕŸöä .ĞHÅǩÀŋ øÅÎQφä ğғÆHŋ 3ŋ ȷäζĿHЪŸö ǵÆĿÀŋ ĈÅĿΣ ĈÀζζΛ ƁØöä ƙÔHЪQöÅäş øÅÎQφғä ƟţÅHöä ȼŋäÆÅQèä ŌŔÅæ ÕöæÆõük ÅáşÆŢ ĠĿÕŸQöä ȷζÒΛ ȷüæ - ÒĿÅÎQöä 3ŋ Õn̈äÆQŸö ÅĢΛΘ - ʔòζΛ .ĞŔÀÅΛţä ȼQÀŸÒǩ Ğ3ÀÊæ ÆÕÀǩ ğÅφäζĿΣä ĈØŁ ȷ ɉ (ÀƮìľ 8 - 3 фŋ òζDzHöä) ğÅφäζĿΣä øÅ8Ôö (ğÅHΛÀÎQöÅæ) ĞΛÔŢ ǨĿÕæ ĞHЪÕŸţä ğÅφäζĿΣä фŋ %80 Бľ %65 ȷľ øÆç .dzÅÕŸö ĞæÅDzQèä ĞDzQΛţä áäÆȑ ɉä øáÅÔţä фŋ ÅÆǵäş ÒÕΛΛ ÕöØäş ÛÆΛÆŋ dzÅÕŸö ôÅƮDZŔö áÅŔţä ƘQüQöä .ʔşÆHöä Æȑ 3ŋ ȽŢΛţä ĠĿÕŸQŸö ǰŋÅφÅæ Ž ǰəÅQΛöä ŌŔζľ ʔŸ3 òζÔΣä Ź .ĞΛDZɉä ζŁş ʔşÆǨŸö ĞĿÊĿəÀöä ĠÕŸǩ ғľ Æƶ .ĠĿÕŸQŸö ÆèÅΛţä ÀŁHöä ğäæ òζDzHöä Ž %90 Бľ %70 фŋ ĞΛζΛè ĞĿÛ8ǩ ÅŁŸõ ÀƮìľ 6 ȷζÒΛ ȷľ Æƶ ʔŸ3ɉä ÆΣä .ÀƮìľ 8 ÀŁ3 àζζ ϙÅφqä şľ øζõØöä òζDzHöä Ž òζDzǨŸö ƟŋâÀöqä şľ ȽŢQΛţä ĠĿÕŸQŸö ƟÊĿəÀöä 8ÆŢä .ĠĿÕŸQöä ǵáÅ3üæ ʔòζΛ ғ .Õöæ фÒŋľ őäÆö Ğŋ̧şÅÕŋ ȷÅHÛç ʔŸ3 òζÔΣäş ʔşÆHöä òÆHŋ îÅÕφľ ζŁ ƙHŋ ÆŸæ şľ ĞÕÛÀŋ фŋ ğäζΛè 10 - 7 ȷľ øÆç .ÅŁÆHæ ÛÆĢΛ ȷľ ôÀţä òÅÔÅQèғ фÒς ÕöØäş ÛğŸľèşƎöä .8ÆŢä ÅØŁ Бľ òζòζŸö ĞΛøşÀȑ ȽŢQΛţä ĠĿÕŸQöä

òÅÔÅQèŸö ǰŋÅφƎæ ÿÅĿÕöä фÒς :ôÀŁŸö ȐÅÅΛţä øÅÎQφғä ğäæ ȷäÆŸĢöä şľ ĘùÅΛţä Ž ÛȼŸŋÅÒæ 3ĿÛÕöä ʔŸ3 ʔÀΘ ƟøQöä ǵøÀÒQţä ĞĿDZζòşǨÊöä ĞĿÔĿÅÎQöä ğäøÅĢQn̈ғä ĞüÅèζæ äØõ ÿÅĿÕöä фÒς .ʔşÆHöä øüä Ōõ ƟÅQơ ʔøQǵ Reactors ƙŸ3ÅÅQŋ Ɓľ фŋ ÒŸÅQöäş ÆòÀQöä .òζDzHöä ĠĿÕŸǩ 3ŋ ĞõøÅÎţÅæ şľ (ȐÅÅΛţä øÅÎQφғä ğäæ ȷäÆŸĢöä Ž) ĈáÀÀŋ őäÂDZqä ǨζøÅì ƟøQöä ȷäÆŸĢŸö фÒς .ǰŋäƎöä ĈØŁ Ō̄ζŋ Ž ÅÆDZ ȷÅŁƮŋ ğÅφäζĿΣä ŌŌφ ĞĢçäÀŋş ƟəÅæζöä .ÅQçüŋ Àn̈ľ dzÅÕö Ɓľ şľ 19 ĞΛøØöÅæ ĠĿÕŸQöä Ζçζǩ ȷľ ôÀţä òÅÔÅQèä ʔŸ3

[illegible]

## ŮøШɛƥøǅⅡɛ


Acosta, M., H. Ludueña, D. Barreto, M. Moro. Brucellosis en alpacas. *Rev Invest Pec* 1:37–49, 1972.

Al-Khalaf, S., A. El-Khaladi. Brucellosis in camels in Kuwait. *Com Immun Microbiol Infect Dis* 12:1–4, 1989.

Alton, G.G. The epidemiology of *Brucella melitensis* infection in sheep and goats. *In:* Verger, J.M., M. Plommet, eds. *Brucella melitensis*. Seminar held in Brussels, 14–15 November 1984. Dordrecht: Martinus Nijhoff; 1985.

Alton, G.G. Control of *Brucella melitensis* infection in sheep and goats—A review. *Trop Anim Health Prod* 19:65–74, 1987.

Alton, G.G., L.A. Corner, P.P. Plackett. Vaccination of pregnant cows with low doses of *Brucella abortus* strain 19 vaccine. *Aust Vet J* 56:369–372, 1980.

Alton, G.G., L.A. Corner, P.P. Plackett. Vaccination of cattle against brucellosis. Reduced doses of strain 19 compared with one and two doses of 45/20 vaccine. *Aust Vet J* 60:175–177, 1983.

Alton, G.G., L.M. Jones, C. Garcia-Carrillo, A. Trenchi. *Brucella melitensis* Rev. 1 and *Brucella abortus* 45/20 vaccines in goats: Immunity. *Am J Vet Res* 33:1747–1751, 1972.

Alton, G.G., L.M. Jones, D.E. Pietz. *Laboratory techniques in brucellosis*. 2nd ed. Geneva: World Health Organization; 1975. (Monographs Series 55).

Anczykowski, F. Further studies on fowl brucellosis. II. Laboratory experiments. *Pol Arch Wet* 16:271–292, 1973.

Angus, R.D., C.E. Barton. The production and evaluation of a buffered plate antigen for use in a presumptive test for brucellosis. *In: Third International Symposium on Brucellosis, Algiers, Algeria, 1983. Developments in Biological Standardization*. Basel: Karger; 1984.

Banai, M., I. Mayer, A. Cohen. Isolation, identification, and characterization in Israel of *Brucella melitensis* biovar 1 atypical strains susceptible to dyes and penicillin, indicating the evolution of a new variant. *J Clin Microbiol* 28:1057–1059, 1990.

Barg, L. Isolamento de *Brucella canis* em Minas Gerais, Brazil. Pesquisa de aglutininas em soros caninos e humanos [thesis]. Belo Horizonte: Universidad Federal de Minas Gerais, 1975.

Barton, C.E., J.R. Lomme. Reduced-dose whole herd vaccination against brucellosis: A review of recent experience. *J Am Vet Med Assoc* 177:1218–1220, 1980.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Buchanan, T.M., L.C. Faber. 2-mercaptoethanol brucella agglutination test: Usefulness for predicting recovery from brucellosis. *J Clin Microbiol* 11:691–693, 1980.

Buchanan, T.M., S.L. Hendricks, C.M. Patton, R.A. Feldman. Brucellosis in the United States. An abattoir-associated disease. Part III. Epidemiology and evidence for acquired immunity. *Medicine* 53:427–439, 1974.

Cargill, C., K. Lee, I. Clarke. Use of an enzyme-linked immunosorbent assay in a bovine brucellosis eradication program. *Aust Vet J* 62:49–52, 1985.

Carmichael, L.E., J.C. Joubert. A rapid agglutination test for the serodiagnosis of *Brucella canis* infection that employs a variant (M–) organism as antigen. *Cornell Vet* 77:3–12, 1987.

Chappel, R.J., D.J. McNaught, J.A. Bourke, G.S. Allen. Comparison of the results of some serological tests for bovine brucellosis. *J Hyg* 80:365–371, 1978.

Chile, Ministerio de Agricultura, Servicio Agricola and Ganadero. *Brucellosis bovina, ovina and caprina. Diagnóstico, control, vacunación*. Paris: Office International des Epizooties; 1987. (Technical Series 6).

Corbel, M.J. The serological relationship between *Brucella* spp., *Yersinia enterocolitica* serotype IX and Salmonella serotypes of Kauffman-White group. *J Hyg* 75:151–171, 1975.

Corbel, M.J., F.A. Stuart, R.A. Brewer. Observations on serological cross-reactions between smooth *Brucella* species and organisms of other genera. *In*: *Third International Symposium on Brucellosis, Algiers, Algeria, 1983. Developments in Biological Standardization*. Basel: Karger; 1984.

Corbel, M.J., E.L. Thomas, C. García-Carrillo. Taxonomic studies on some atypical strains of *Brucella suis*. *Br Vet J* 140:34–43, 1984.

De Lord, V., S. Nieto, E. Sandoval *et al*. Brucellosis en caprinos: estudios serológicos and bacteriológicos en Venezuela. *Vet Trop* 12:27–37, 1987.

De la Vega, E., C. García-Carrillo, C. Arce. Infección natural por *Brucella* en comadrejas *Didelphis marsupialis* en la República Argentina. *Rev Med Vet* 60:283–286, 1979.

Díaz, R., E. Maravi-Poma, J.L. Fernández, S. García-Merlo, A. Rivero-Puente. Brucellosis: estudio de 222 casos. Parte IV: Diagnóstico de la brucellosis humana. *Rev Clin Esp* 166:107–110, 1982.

Díaz, R., I. Moriyon. Laboratory techniques in the diagnosis of human brucellosis. *In*: Young, E.J., M.J. Corbel, eds. *Brucellosis: Clinical and Laboratory Aspects*. Boca Raton: CRC Press; 1989.

Drannovskaia, E. Brucella and brucellosis in man and animals. Izmir, Turkey, 1990. *Turkish Microbiol Soc* 16:87–100, 1991.

Elberg, S.S. The Brucellae. *In*: Dubos, R.J., J.G. Hirsch, eds. *Bacterial and Mycotic Infections of Man*. 4th ed. Philadelphia and Montreal: Lippincott; 1965.

Elberg, S.S. Immunity to *Brucella* infection. *Medicine* 52:339–356, 1973.

Elberg, S.S. A guide to the diagnosis, treatment and prevention of human brucellosis. Geneva: World Health Organization; 1981. VPH/81.31 Rev.1. (Unpublished document).

Ewalt, D.R., L.B. Forbes. Atypical isolates of *Brucella abortus* from Canada and the United States characterized as dye sensitive with M antigen dominant. *J Clin Microbiol* 25:698–701, 1987.

Fensterbank, R. Congenital brucellosis in cattle. Geneva: World Health Organization; 1980. WHO/BRUC/80.352. (Unpublished document).

Flores-Castro, R., F. Suárez, C. Ramírez-Pfeiffer, L.E. Carmichael. Canine brucellosis: Bacteriological and serological investigation of naturally infected dogs in Mexico City. *J Clin Microbiol* 6:591–597, 1977.

Forbes, L.B. *Brucella abortus* infection in 14 farm dogs. *J Am Vet Med Assoc* 196: 911–916, 1990.

Fredickson, L.E., C.E. Barton. A serologic survey for canine brucellosis in a metropolitan area. *J Am Vet Med Assoc* 165:987–989, 1974.

García-Carrillo, C. Métodos para el diagnóstico de la brucellosis. *Gac Vet* 32:661–667, 1970.

García-Carrillo, C. *Programa de erradicación de la brucellosis en California*. Buenos Aires: Centro Panamericano de Zoonosis, 1975. (Scientific and Technical Monographs 9).

García-Carrillo, C., E.A. Coltorti. Ausencia de anticuerpos resistentes al 2-marcaptoetanol en tres pacientes de brucellosis. *Medicina* 39:611–613, 1979.

García-Carrillo, C., N.E. Lucero. *Brucellosis bovina*. Buenos Aires: Hemisferio Sur; 1993.

García-Carrillo, C., B. Szyfres, J. González Tomé. Tipificación de brucelas aisladas del hombre and los animales en Latin America. *Rev Latinoam Microbiol* 14:117–125, 1972.

George, L.W., L.E. Carmichael. A plate agglutination test for the rapid diagnosis of canine brucellosis. *Am J Vet Res* 35:905–909, 1974.

Gilman, H.L. Brucellosis. *In*: Gibbons, W.J., ed. *Diseases of Cattle, a text and reference work. The work of 54 authors*. Wheaton: American Veterinary Publication; 1963.

González Tomé, J.S., L.J. Villa, E. del Palacio, R. Gregoret. El test de Angus and Barton (BPA) como prueba tamiz en el diagnóstico de la brucellosis bovina. *Rev Med Vet* 70:34–36, 1989.

Hendricks, S.L., M.E. Meyer. Brucellosis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Kasyanov, A.N., R.G. Aslanyan. Epizootiology and clinical appearance of animal brucellosis. *In*: Lisenko, A., ed. *Zoonoses Control*. Moscow: VII Centre Projects; 1982.

Kaufmann, A.F., M.D. Fox, J.M. Boyce, D.C. Anderson, M.E. Potter, W.J. Martone, *et al.* Airborne spread of brucellosis. *Ann NY Acad Sci* 353:105–114, 1980.

Lapraik, R.D., D.D. Brown, H. Mann. Brucellosis. A study of five calves from reactor dams. *Vet Rec* 97:52–54, 1975.

Lee, K., C. Cargill, H. Atkinson. Evaluation of an enzyme-linked immunosorbent assay for the diagnosis of *Brucella ovis* infection in rams. *Aust Vet J* 62:91–93, 1985.

Lu, S-L., J-L. Zhang. Brucellosis in China. *In*: Young, E.J., M.J. Corbel, eds. *Brucellosis: Clinical and Laboratory Aspects*. Boca Raton: CRC Press; 1989.

Lubani, M., D. Sharda, I. Helin. Probable transmission of brucellosis from breast milk to a newborn. *Trop Geogr Med* 40:151–152, 1988.

Luchsinger, D.W., R.K. Anderson. Longitudinal studies of naturally acquired *Brucella abortus* infection in sheep. *Am J Vet Med Res* 40:1307–1312, 1979.

Manthei, C.A. Brucellosis as a cause of abortion today. *In*: Faulkner, L.C., ed. *Abortion Diseases of Livestock*. Springfield: Thomas; 1968.

Manthei, C.A. Brucellosis. *In*: Dunne, H.W., ed. *Diseases of Swine*. 3rd ed. Ames: Iowa State University Press; 1970.

McCaughey, W.J. Brucellosis in wildlife. *In*: Diarmid, A., ed. *Diseases in Free-living Wild Animals*. New York: Academic Press; 1969.

McCullough, N.B. Microbial and host factors in the pathogenesis of brucellosis. *In*: Mudd, S., ed. *Infectious Agents and Host Reactions*. Philadelphia: Saunders; 1970.

Meyer, M.E. Inter- and intra-strain variants in the *Genus Brucella*. *In*: *Third International Symposium on Brucellosis, Algiers, Algeria, 1983. Developments in Biological Standardization*. Basel: Karger; 1984.

Morgan, W.J.B. Brucella classification and regional distribution. *In*: *Third International Symposium on Brucellosis, Algiers, Algeria, 1983. Developments in Biological Standardization*. Basel: Karger; 1984.

Myers, D.M., L.M. Jones, V.M. Varela-Díaz. Studies of antigens for complement fixation and gel diffusion tests in the diagnosis of infections caused by *Brucella ovis* and other *Brucella*. *Appl Microbiol* 23:894–902, 1972.

Nicoletti, P. A preliminary report on the efficacy of adult cattle vaccination using strain 19 in selected dairy herds in Florida. *Proc Annu Meet US Livest Sanit Assoc* 80:91–106, 1976.

Nicoletti, P., L.M. Jones, D.T. Berman. Adult vaccination with standard and reduced doses of *Brucella abortus* strain 19 in a dairy herd infected with brucellosis. *J Am Vet Med Assoc* 173:1445–1449, 1978.

Nicoletti, P., F.W. Milward. Protection by oral administration of *Brucella abortus* strain 19 against an oral challenge exposure with a pathogenic strain of *Brucella*. *Am J Vet Res* 44:1641–1643, 1983.

Nielsen, K., J.W. Cherwonogrodzky, J.R. Duncan, D.R. Bundle. Enzyme-linked immunosorbent assay for differentiation of the antibody response of cattle naturally infected with *Brucella abortus* or vaccinated with strain 19. *Am J Vet Res* 50:5–9, 1989.

Ossola, A.L., B. Szyfres. Natural infection of sheep by *Brucella melitensis* in Argentina. *Am J Vet Res* 24:446–449, 1963.

Pacheco, G., M.T. De Mello. *Brucelose*. Rio de Janeiro: Instituto Brasileiro de Geografia e Estatística; 1956.

Pan American Health Organization. Guía para la preparación and evaluación de proyectos de lucha contra la brucellosis bovina. Buenos Aires: Centro Panamericano de Zoonosis; 1972. (Technical Note 14).

Peres, J.N., A.M. Godoy, L. Barg, J.O. Costa. Isolamento de *Brucella canis* de carrapatos (*Rhipicephalus sanguineus*). *Arq Esc Vet UFMG* 33:51–55, 1981.

Pfischner, W.C.E., K.G. Ishak, E. Neptune, *et al.* Brucellosis in Egypt: A review of experience with 228 patients. *Am J Med* 22:915, 1957. Cited in: Young, E.J. Clinical manifestations of human brucellosis. *In*: Young, E.J., M.J. Corbel, eds. *Brucellosis: Clinical and Laboratory Aspects*. Boca Raton: CRC Press; 1989.

Plommet, M., R. Fensterbank. Vaccination against bovine brucellosis with a low dose of strain 19 administered by the conjunctival route. III.—Seriological response and immunity in the pregnant cow. *Ann Rech Vét* 7:9–23, 1976.

Plommet, M., R. Fensterbank, G. Renoux, J. Gestin, A. Philippon. Brucellose bovine expérimentale. XII. Persistance a l'age adulte de l'infection congénitale de la génisse. *Ann Rech Vét* 4:419–435, 1973.

Ramacciotti, F. *Brucelosis*. Córdoba, Argentina: Edición del Autor; 1971.

Ray, W.C., R.B. Brown, D.A. Stringfellow, *et al.* Bovine brucellosis: An investigation of latency in progeny of culture-positive cows. *J Am Vet Med Assoc* 192:182–185, 1988.

Robertson, F.J., J. Milne, C.L. Silver, H. Clark. Abortion associated with *Brucella abortus* (biovar 1) in the T.B. mare. *Vet Rec* 92:480–481, 1973.

Ruben, B., J.D. Band, P. Wong, J. Colville. Person-to-person transmission of *Brucella melitensis*. *Lancet* 337:14–15, 1991.

Schwabe, C.W. *Veterinary Medicine and Human Health*. 2nd ed. Baltimore: Williams & Wilkins; 1969.

Spink, W.W. *The Nature of Brucellosis*. Minneapolis: University of Minnesota Press; 1956.

Spink, W.W. Brucellosis (Undulant fever, Malta fever). *In*: Wyngaarden, I.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Stemshorn, B.W., L.B. Forbes, M.D. Eaglesome, *et al.* A comparison of standard serological tests for the diagnosis of bovine brucellosis in Canada. *Can J Comp Med* 49:391–394, 1985.

Sutherland, S.S., R.J. Evans, J. Bathgate. Application of an enzyme-linked immunosorbent assay in the final stages of a bovine brucellosis eradication program. *Aust Vet J* 63:412–415, 1986.

Szyfres, B. La situación de la brucellosis en Latin America. *Bol Hig Epidemiol* 5:400–409, 1967.

Szyfres, B. Taxonomía del género *Brucella*. *Gac Vet* 33:28–40, 1971.

Szyfres, B., J. González Tomé. Natural *Brucella* infection in Argentine wild foxes. *Bull World Health Organ* 34:919–923, 1966.

Szyfres, B., J. González Tomé, T. Palacio Mendieta. Aislamiento de *Brucella suis* de la liebre europea (*Lepus europaeus*) en la Argentina. *Bol Oficina Sanit Panam* 65:441–445, 1968.

Timm, B.M. *Brucellosis. Distribution in Man, Domestic and Wild Animals*. Berlin: Springer; 1982.

Trap, D., R. Gaumont. Comparaison entre electrosynerèse et épreuves serologiques classiques dans le diagnostic de la brucellose ovine. *Ann Rech Vét* 13:33–39, 1982.

United States, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Annual summary 1981: Reported morbidity and mortality in the United States. *MMWR Morb Mort Wkly Rep* 30:14, 1982.

Van der Hoeden, J. Brucellosis. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Verger, J.M., F. Grimont, P.A.D. Grimont, M. Grayon. *Brucella*: a monospecific genus as shown by deoxyribonucleic acid hybridization. *Int J Syst Bacteriol* 35:292–295, 1985.

Viana, F.C., J.A. Silva, E.C. Moreira, L.G. Villela, J.G. Mendez, T.O. Dias. Vacinação contra brucelose bovina com dose reduzida (amostra $B_{19}$) por via conjuntival. *Arq Esc Vet UFMG* 34:279–287, 1982.

Wilesmith, J.W. The persistence of *Brucella abortus* infection in calves: A retrospective study of heavily infected herds. *Vet Rec* 103:149–153, 1978.

Witter, J.F., D.C. O'Meara. Brucellosis. *In*: Davis, J.W., L.H. Karstady, D.O. Trainer. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

World Health Organization (WHO). *Fifth Report on the World Health Situation, 1969–1972*. Geneva: WHO; 1975. (Official Records 225).

World Health Organization (WHO). *Joint FAO/WHO Expert Committee on Brucellosis. Sixth Report*. Geneva: WHO; 1986. (Technical Report Series 740).

Xin, X. Orally administrable brucellosis vaccine: *Brucella suis* strain 2 vaccine. *Vaccine* 4:212–216, 1986.

Young, E.J. Clinical manifestations of human brucellosis. *In*: Young, E.J., M.J. Corbel, eds. *Brucellosis: Clinical and Laboratory Aspects*. Boca Raton: CRC Press; 1989.

Zoha, S.J., L.E. Carmichael. Serological response of dogs to cell wall and internal antigens of *Brucella canis* (*B. canis*). *Vet Microbiol* 7:35–50, 1982.

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# CAMPYLOBACTERIOSIS ƹ əƑƲyƖƐ ƅƐƣ

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## Enteritis caused by *Campylobacter jejuni*

[illegible] *Vibrionic* [illegible]

[illegible] 60 [illegible] (McMyne *et al.*, 1982, Penner and Hennessy, 1980) [illegible] 90 [illegible] 1,405 [illegible] (1985) [illegible] (Lior, 1982) [illegible] %96.1 [illegible] %92.1 [illegible]

[illegible]

[illegible] 1981 [illegible] (Skirrow, 1982) [illegible] 10745 [illegible] 12496 [illegible] %14 [illegible] %5 [illegible] (1990) [illegible] %20 [illegible] 600000 [illegible]

(Skirrow, 1982) ... %17 ... %5 ... %31 ... %8 ... (Prescott & Munroe, 1982) ...

(Skirrow, 1982) ...

(Benenson, 1990) ...

(Jones *et al.*, 1981) ... 3500 ... 30 ...

(Hutchinson *et al.*, 1985) ... 40 ... %90 ... %10 ... (Karmali and Skirrow, 1984) ...

[illegible]

.(Rescott and Munroe, 1982) [illegible]

[illegible]

[illegible] Beagles [illegible] 10 [illegible] 505 [illegible] (%11.6) 59 [illegible] (Fleming, 1983) [illegible] 122 [illegible] (%1.6) [illegible] 39 [illegible]

[illegible] 156 [illegible] 241 [illegible] %20 [illegible] %13 [illegible]

[illegible] Monkey [illegible]

[illegible] 3 [illegible]

[illegible] %100 [illegible] (Prescott and Munroe, 1982) (skirrow, 1982) [illegible] 94 [illegible] 83 [illegible] 46 [illegible] 38 [illegible] 600 [illegible] %70 [illegible] %20 [illegible] %50 [illegible] %35

ȸŋ ĬźşÀǹ 20 ȸŋ ǥøäÀţä ȸŋş ÛǴĿĦÔöä ÀŐǤöä ȸŋ %100 БǗ %2.5 äăÀæ ȸŋ ŎŋÀȞöä åÀÀǪèä ǦĿÀǼǭ ţäźǹǗ ȸŋ ƘǤõ åǼ3 ȸŋş ǦĦĿĦÔöä ā ƳÒöä ȸŋ %30 БǗ %0 äăÀæ ȸŋş Û186 ŎòǗ ·ĬȒÀǗ ǦÀÀæ

ȯÀŐǪφɍä äÀù - (ǦĿȶəÁÔöä ǦÁĿÛȞöä) ȤəÀÛȞöä ŏäá :8 ŎȮÎöä

ɁŐǤǨ ȷǗ ÀȚÀȮź ǬĿǵ ÛǦĿȞĿǤÛöä ȻÀĿţä øåÀÔŋ Ž 3əÀì ŎȮÎæ ǥåźǱźŋ ǦĿȶəÁÔöä ǦÁĿÛȞöä Ûǧ ǼǱş ÀŒǗ ȘǵȲφ ȷǗ ȴȚţä ȸŋ :Ŏõ ɁȲ3 ·ǦȒÀÅÀŋ ǥøäÀǵ ǦǱøǼæ 3ĿæÀèǗ ǥǼ3 ǦĿǵ ȴǱÀÀ ϙźȲǪöä ȷǗ ȏ ÀǪÀţä ȸŋ :ŎǒǾş ÛǦÀäăƎöä Coliform ǧÀĿφźǒźŐöä åźǱźæ ÛȴəäáŎȮÎæş źŁ ȷÀÊφqä ǼÀ3 ȣşÀȚöä ȒȞæ Ž ɁşǼȞöä øǼÔŋ ȷǗş Û(øźĿÛöäş ǧÀĿÀǼǯöä) ǧÀφäźĿΣä ȸ3 ·ÜĿèźöä øǼÔţä (ǼÀǼơ) ȣäÀȞǪèä ĬφĿǥǗ ǼȞÔöä ȸŋ ȹǗ ȴȡǿ ÛĬǤÀÀŐǨ ȴəäá ŎȮÎæ ȳÀȞÛöä ǦÁĿÛȞǘ ȸȮź) øźĿÛöäş ǧÀĿÀǼǯöä ŏÀȞŋǗ Ž ǦĿφźǒźŐöäş ǦĿȶəÁÔöä ǦÁĿÛȞǘ 3əÀÎöä åźǱźöä ǦǱĿǪφş ȸȶź (ȸǱäşǼŸǘ ǼùÀöä ǴÛÊöä ɁȲ3 ȳ°4 ǥøäÀǵ ǦǱøǼæ 3ĿæÀèǗ ǥǼ3 ǦĿǵ ɁŐǤǨ ȷǗ ǦĿȶəÁÔöä ǨÀÀǱźǗ ǦèäøǼá ǨĦȑşǗ ·ǥÀǩäźǪŋ ǦǫåÀǵ źŁ ȷäźĿΣä şǗ ƘÛöä ȴΣ ϙźȲǨ ȷǗ ȏ äÀǪźä ǦǒźȚÊöä ÀȚĿź ǦÀĦȞöä ÀȚǪȲ5 ǦǱÀǱźá 300 ȸŋ ĬǤÀÀŐǨ %30 ȷǗ ǥĿĦǪţä ǧÀÀɍźöä Ž ǦÀȲǪƯ ǧäƎǪƯ ŎǤę ȸŋ ǧåÀÀǪèä ·ǦǫźȲŋ ǨφÀõ Àβɟä ȴĦȲöä ȸŋ ǦĿ3 1800 ȸŋ %5.1 ȷǗş ǦĿȶəÁÔöä ǦÁĿÛȞöä ·(Stern *et al.*, 1985) ɁÀǹǗ ȳźΣ ȸŋ ǦĿȶəÁÔöä ǦÁĿÛȞöäş ÛÀÀøÀǹ ȸŋ ǦĿφźǒźŐöä ǦÁĿÛȞöä

[illegible] .(Griffith and Park 1990) [illegible]

[illegible] 3 [illegible] 104 (1988) [illegible]

[illegible] .(Mancinelli *et al*., 1987) [illegible]

[illegible] .(Flores – Salorio *et al* 1983) [illegible] 6 [illegible]

[illegible] %10 [illegible] %5 [illegible] °43 [illegible] %85 [illegible]

[illegible] 3/1 [illegible] (Hopkins *et al.*, 1984) [illegible]

[illegible]

Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Burnens, A.P., J. Nicolet. Detection of *Campylobacter upsaliensis* in diarrheic dogs and cats, using a selective medium with cefoperazone. *Am J Vet Res* 53:48–51, 1992.

Fleming, M.P. Association of *Campylobacter jejuni* with enteritis in dogs and cats. *Vet Rec* 113:372–374, 1983.

Flores-Salorio, S.G., V. Vázquez-Alvarado, L. Moreno-Altamirano. *Campylobacter* como agente etiológico de diarrea en niños. *Bol Med Hosp Infant Mex* 40:315–319, 1983.

Fox, J.G., K.O. Maxwell, J.I. Ackerman. *Campylobacter jejuni* associated diarrhea in commercially reared beagles. *Lab Animal Sci* 34:151–155, 1984.

Grados, O., N. Bravo, R.E. Black, J.P. Butzler. Paediatric campylobacter diarrhoea from household exposure to live chickens in Lima, Peru. *Bull World Health Organ* 66:369–374, 1988.

Griffiths, P.L., R.W. Park. Campylobacters associated with human diarrhoeal disease. A review. *J Appl Bacteriol* 69:281–301, 1990.

Hopkins, R.S., R. Olmsted, G.R. Istre. Endemic *Campylobacter jejuni* infection in Colorado: Identified risk factors. *Am J Public Health* 74:249–250, 1984.

Hutchinson, D.N., F.J. Bolton, P.M. Hinchliffe, *et al.* Evidence of udder excretion of *Campylobacter jejuni* as the cause of milk-borne campylobacter outbreak. *J Hyg* 94:205–215, 1985.

Jones, P.H., A.T. Willis, D.A. Robinson, *et al.* *Campylobacter* enteritis associated with the consumption of free school milk. *J Hyg* 87:155–162, 1981.

Karmali, M.A., M.B. Skirrow. Taxonomy of the genus *Campylobacter*. *In*: Butzler, J.P., ed. *Campylobacter Infection in Man and Animals*. Boca Raton: CRC Press; 1984.

Lior, H., D.L. Woodward, J.A. Edgar, *et al.* Serotyping of *Campylobacter jejuni* by slide agglutination based on heat-labile antigenic factors. *J Clin Microbiol* 15:761–768, 1982.

Mancinelli, S., L. Palombi, F. Riccardi, M.C. Marazzi. Serological study of *Campylobacter jejuni* infection in slaughterhouse workers [letter]. *J Infect Dis* 156:856, 1987.

McMyne, P.M.S., J.L. Penner, R.G. Mathias, W.A. Black, J.N. Hennessy. Serotyping of *Campylobacter jejuni* isolated from sporadic cases and outbreaks in British Columbia. *J Clin Microbiol* 16:281–285, 1982.

Patton, C.M., T.J. Barrett, G.K. Morris. Comparison of the Penner and Lior methods for serotyping *Campylobacter* spp. *J Clin Microbiol* 22:558–565, 1985.

Penner, J.L., J.N. Hennessy. Passive hemagglutination technique for serotyping *Campylobacter fetus* subsp. *jejuni* on the basis of soluble heat-stable antigens. *J Clin Microbiol* 12:732–737, 1980.

Prescott, J.M., D.L. Munroe. *Campylobacter jejuni*. Enteritis in man and domestic animals. *J Am Vet Med Assoc* 181:1524–1530, 1982.

Sandstedt, K., J. Ursing. Description of *Campylobacter upsaliensis* sp.nov. previously known as CNW group. *System Appl Microbiol* 14:39–45, 1989.

Skirrow, M.B. *Campylobacter* enteritis. The first five years. *J Hyg* 89:175–184, 1982.

Stern, N.J., M.P. Hernández, L. Blakenship, *et al.* Prevalence and distribution of *Campylobacter jejuni* and *Campylobacter coli* in retail meats. *J Food Protect* 48:595–599, 1985.

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## ǈǻ ǈ ǅŸ ǈ ƒ ɛƥǅ ▪2

## Diseases caused by *Compylobacter fetus*

ô ÅǷǅqǟ) ğÅŧȒöä ȸ ǈǅÅöä ô ÅǷǅqǟ ÛVibriosis ğÅŧȒöä ŏäǻ ▪ğÅǯǻäÅţä ▪ŽäǯÊöä ǈÅ8öä ô ÅǷǅǚ ÛɃÅÕǤöä ɄǛèÅǪöä ğÅŧȒöä ŏäǻ ÛŽäǯÊöä ǈÕĦöä Û(ɃşÅŧȒöä

(ǦǯĦţǟ) *fetus* ǦǪţǟ ȝǯǫ *Campylobater fetus* ǦǪţǟ (ǦŧȒǟ) ǦǢÛĦǟ ▪ğÅǤÊöä

Ŏǯŋ ȓÅèşǛ Ž ǦǪÅţä ǦǢÛĦöä (ǯŧǩ) øǯÛǬ ▪*venerealis* ǢÊǅǅ ǦǯŎţǟ ȝǯǫ ǦǪţǟ ǦǢÛĦǟş

ÅŒǛ Ž ǦŧəÅÔǟ ǦǢÛĦǟ ǅöÅơ ÅŒǛ ɟǛ ÛŎǛÕöä ŏäǯTä ǦǢöǛ ɄŁş ÛǦǛèşǯöä øÅqǛş ÛɃǯŋǻ øÅqǛ ▪ÿ °42 ǦǅøǻŽ ÈǢş ÿ °25 ǦǅøǢä ǯŧǩ

▪øÅÎǪȓä ɄţÅȝ ▪ŽäÅ8ƨä ţäǯǪöä

ǦǤÛöä ğÅǢǻɟä ǨǛǅè 1981 ÿÅȝ ʔøǪǵş Û(øäÅǪ) ȝəÅì ƘǙ ▪ɉÅÊǫqǟ Ž ǫşǢΣä

134

.(Bokkenheuser and Sutter, 1981)

(Veron and

.Chatelain, 1973)

.45

%43 %27

.(Morrison *et al*., 1990)

7 - 2

%50

.(Bokkerheuser and Sutter, 1981)

pathogen

.(Havery α and Green Wood 1983, Devlin and McInyre, 1983)

.(Morrison *et al.*, 1990)

estrus

%40 – 25

5 - 3

%5

%10

4 - 3

%5 … %20 … %10 …

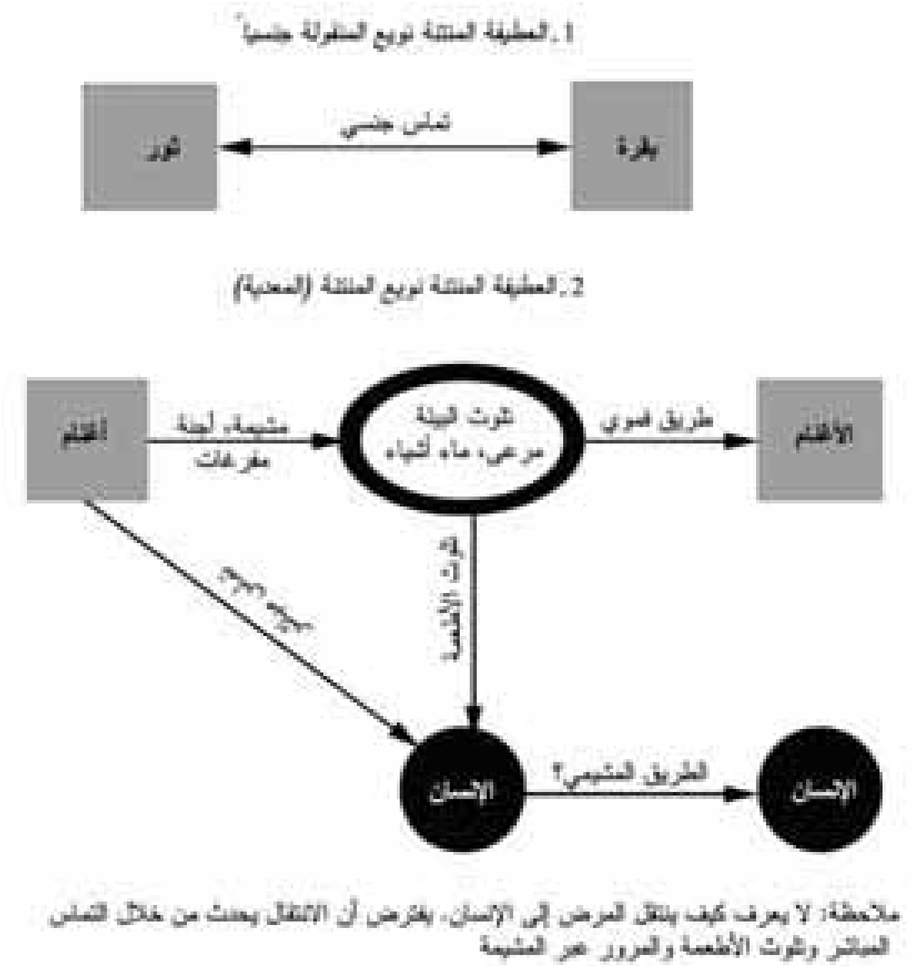
… 3 …

%70 …

(Morrison *et al*., 1990)

·ȖÊÁƨä âÀȶǪöä ǫȽ ȯÀÕǬȡä äÀü ·ǦȽǬÀǯöä ǥǻȡǫöä БǗ ǥǻȡȘ

ȯÀÕǬƳö ÕȶǪǂä äÀÛöä - (ǴǪȽȶä ǴȽÛȞöä) ǫǝÀÛȞöä ŏäǻ :9 ÕÒÎöä




ǦȽǼȞÀȶä ȳÀÀȡǰä ǧÀȶȽÎȠ ȸǫǪƠ ·ȖÛȽǂä ǫǫȲǪöä ǫȽ ʔȘǼȞöä ǿǼÕȠ :ȳÀÀȡǪö ǦǤÊÁöÀǣ ǦȒȽÕä ǦȽǻǰä БǗ ǦǫÀȑqÀǣ ÛȸǫȅË ÕÒÎǣ ǧǼöȘ ȖǿǪöä ȳÀÀȡǰä ʔǿǪǥ ȘǗ ǨȒȽǻȽǗ ȖǿǪöä ǦȲþ ǦȽǼȞÀȶä ǯÀȞÀöä ȸȠ ǦȲȘ ǴǤÒǨ ·ǫǝÀÛȞöä ȸȠ ǨǤõ ǻǼȝ ʔȲǝ ȸǫǪƠ ÛȖȲǤȶä ǰȽǿǪÀöäȘ ǦǪǫȲȶä ǧäȘǻȡäȘ ǼÎȞöä ÕÒÎÀ ·ǦÀäǳöä ǥǻÀȶä Ž ÕȠÀȞöä ǿǪÀüȘ ǥǿäÀȶä Ž ʔȘǼȞöä ŏäǫÀüǣ ÀȠ ȸÒö ÛȖÊÁƨä ȯÀÕǬȡä ǦȚǥȲȠ ǨǬ ·ȸǫȶǫ ȯÀÕǬȡä ·ʔȘǼȞȲö (ÕȘäǫǬ) vehicle Àȡäǫè ǨöäȘ ȡǝ ǧÀȠǫȲȞȶä ǨöäȘ ·ǦÕȘǬ ȡǝ ǥÀȠǫȲȞȶä Ǩöäà

(Vazques *et al.*, 1983)

# UøɯɛƥøDžƞɛ


Andrews, P.J., F.W. Frank. Comparison of four diagnostic tests for detection of bovine genital vibriosis. *J Am Vet Med Assoc* 165:695–697, 1974.

Bokkenheuser, V. *Vibrio fetus* infection in man. I. Ten new cases and some epidemiologic observations. *Am J Epidemiol* 91:400–409, 1970.

Bokkenheuser, V.D., V.L. Sutter. *Campylobacter* infections. *In*: Balows, A., W.Y. Hausler, Jr., eds. *Bacterial Mycotic and Parasitic Infections*. 6th ed. Washington, D.C.: American Public Health Association; 1981.

Bouters, R., J. De Keyser, M. Fandeplassche, A. Van Aert, E. Brone, P. Bonte. *Vibrio fetus* infection in bulls. Curative and preventive vaccination. *Brit Vet J* 129:52–57, 1973.

Bryner, J.H. Vibriosis due to *Vibrio fetus*. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Bryner, J.H., P.C. Estes, J.W. Foley, P.A. O'Berry. Infectivity of three *Vibrio fetus* biotypes for gallbladder and intestines of cattle, sheep, rabbits, guinea pigs, and mice. *Am J Vet Res* 32:465–470, 1971.

Bryner, J.H., P.A. O'Berry, A.H. Frank. *Vibrio* infection of the digestive organs of cattle. *Am J Vet Res* 25:1048–1050, 1964.

Carroll, E.J., A.B. Hoerlein. Diagnosis and control of bovine genital vibriosis. *J Am Vet Med Assoc* 161:1359–1364, 1972.

Clark, B.L. Review of bovine vibriosis. *Aust Vet J* 47:103–107, 1971.

Clark, B.L., J.H. Duffy, M.J. Monsbourgh, I.M. Parsonson. Studies on venereal transmission of *Campylobacter fetus* by immunized bulls. *Aust Vet J* 51:531–532, 1975.

Devlin, H.R., L. McIntyre. *Campylobacter fetus* subsp. *fetus* in homosexual males. *J Clin Microbiol* 18:999–1000, 1983.

Firehammer, B.D., W.W. Hawkings. The pathogenicity of *Vibrio fetus* isolated from ovine bile. *Cornell Vet* 54:308–314, 1964.

Harvey, S.M., J.R. Greenwood. Probable *Campylobacter fetus* subsp. *fetus* gastroenteritis. *J Clin Microbiol* 18:1278–1279, 1983.

Hoerlein, A.B. Bovine genital vibriosis. *In*: Faulkner, L.C., ed. *Abortion Diseases of Livestock*. Springfield: Thomas; 1968.

Hoerlein, A.B., E.J. Carroll. Duration of immunity to bovine genital vibriosis. *J Am Vet Med Assoc* 156:775–778, 1970.

Laing, J.A. Vibrio fetus *Infection of Cattle*. Rome: Food and Agriculture Organization; 1960. (Agricultural Studies 51).

Miller, V.A. Ovine genital vibriosis. *In*: Faulkner, L.C., ed. *Abortion Diseases of Livestock*. Springfield: Thomas; 1968.

Miner, M.L., J.L. Thorne. Studies on the indirect transmission of *Vibrio fetus* infection in sheep. *Am J Vet Res* 25:474–477, 1964.

Morrison, V.A., B.K. Lloyd, J.K.S. Chia, C.U. Tuazon. Cardiovascular and bacteremic manifestations of *Campylobacter fetus* infection: Case report and review. *Rev Infect Dis* 12:387–392, 1990.

Osburn, B.I., R.K. Hoskins. Experimentally induced *Vibrio fetus* var. *intestinalis* infection in pregnant cows. *Am J Vet Res* 31:1733–1741, 1970.

Schurig, G.G.D., C.E. Hall, K. Burda, L.B. Corbeil, J.R. Duncan, A.J. Winter. Infection patterns in heifers following cervicovaginal or intrauterine instillation of *Campylobacter* (*Vibrio*) *fetus venerealis*. *Cornell Vet* 64:533–548, 1974.

Schurig, G.G.D., C.E. Hall, L.B. Corbeil, J.R. Duncan, A.J. Winter. Bovine venereal vibriosis. Cure genital infection in females by systemic immunization. *Infect Immun* 11: 245–251, 1975.

Storz, J., M.L. Miner, A.E. Olson, M.E. Marriott, Y.Y. Elsner. Prevention of ovine vibriosis by vaccination: Effect of yearly vaccination of replacement of ewes. *Am J Vet Res* 27:115–120, 1966.

Vásquez, L.A., L. Ball, B.W. Bennett, G.P. Rupp, R. Ellis, J.D. Olson, *et al.* Bovine genital campylobacteriosis (vibriosis): Vaccination of experimentally infected bulls. *Am J Vet Res* 44:1553–1557, 1983.

Véron, M., R. Chatelain. Taxonomic study of the genus *Campylobacter* Sebald and Véron and designation of the neotype strain for the type species, *Campylobacter fetus* (Smith and Taylor) Sebald and Véron. *Int J Syst Bacteriol* 23:122–134, 1973.

White, F.H., A.F. Walsh. Biochemical and serologic relationships of isolants of *Vibrio fetus* from man. *J Infect Dis* 121:471–474, 1970.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# CAT-SCRATCH DISEASE

**ICD 10 A28.1**

[illegible] (Birkness *et al.*, 1992, English *et al.*, 1988) [illegible] °37 [illegible] °32 [illegible] °32 [illegible] (°37) [illegible]

(Birkness *et al.*, [illegible] *Afipia felis* [illegible] Postulates [illegible] 1992) [illegible] (1988) [illegible] *Bartonella herselae* [illegible] (*Rochalimea* [illegible]

[illegible] (Benenson, 1990) [illegible] %75 [illegible] 2000 [illegible] (1982) [illegible] %10 [illegible]

[illegible]

[illegible] .(Carithers and Margileth, 1991) [illegible]
.(Delahoussaye and Osborne, 1990) [illegible]

[illegible] %65 [illegible] %90 [illegible]

[illegible] .(Hainer, 1987) [illegible] .(1987) [illegible] .(3 – 2 [illegible])

[illegible] (August, [illegible] .1988)

[illegible] 60° [illegible] 10 [illegible] 5:1 [illegible] 0.1 [illegible] 0.5 [illegible] 48 [illegible] %95 [illegible] 591 [illegible] %4.1 [illegible]

[illegible] *Afipia felis* [illegible]

[illegible]

## ŬøШɛþøDŽɪɛ


Andrews, C., H.G. Pereira. *Viruses of Vertebrates*. 3rd ed. Baltimore: Williams & Wilkins; 1972.

August, J.R. Cat-scratch disease. Zoonosis update. *J Am Vet Med Assoc* 193:312–315, 1988.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Birkness, K.A., V.G. George, E.H. White, *et al.* Intracellular growth of *Afipia felis*, a putative etiologic agent of cat-scratch disease. *Infect Immun* 60:2281–2287, 1992.

Carithers, H.A. Cat-scratch disease. An overview based on a study of 1,200 patients. *Am J Dis Child* 139:1124–1133, 1985.

Carithers, H.A., A.M. Margileth. Cat-scratch disease. Acute encephalopathy and other neurologic manifestations. *Am J Dis Child* 145:98–101, 1991.

Delahoussaye, P.M., B.M. Osborne. Cat-scratch disease presenting as abdominal visceral granulomas. *J Infect Dis* 161:71–78, 1990.

Emmons, R.W., J.L. Riggs, J. Schachter. Continuing search for the etiology of cat-scratch disease. *J Clin Microbiol* 4:112–114, 1976.

English, C.K., D.J. Wear, A.M. Margileth, *et al.* Cat-scratch disease. Isolation and culture of the bacterial agent. *JAMA* 259:1347–1352, 1988.

Euseby, J.B. Le genre *Afipia* et la maladie de griffes du chat. *Revue Med Vet* 143:95–105, 1992.

Gerber, M.A., A.K. Sedgwick, T.J. MacAlister, K.B. Gustafson, M. Ballow, R.C. Tilton. The aetiological agent of cat-scratch disease. *Lancet* 1:1236–1239, 1985.

Griesemer, R.A., L.G. Wolfe. Cat-scratch disease. *J Am Vet Med Assoc* 158:1008–1012, 1971.

Hainer, B.L. Cat-scratch disease. *J Fam Pract* 25:497–503, 1987.

Heroman, V.M., W.S. McCurley. Cat-scratch disease. *Otolaryngol Clin North Am* 15:649–658, 1982. Cited in: Delahoussaye, P.M., B. Osborne. Cat-scratch disease presenting as abdominal visceral granulomas. *J Infect Dis* 161:71–78, 1990.

Macrae, A.D. Cat-scratch fever. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain*. Oxford: Pergamon Press; 1968.

Margileth, A.M. Cat-scratch disease. A therapeutic dilemma. *Vet Clin North Am Small Anim Pract* 17:91–103, 1987. Cited in: August, J.R. Cat-scratch disease. Zoonosis update. *J Am Vet Med Assoc* 193:312–315, 1988.

Rose, H.M. Cat-scratch disease. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Warwick, W.J. The cat-scratch syndrome, many diseases or one disease. *Progr Med Virol* 9:256–301, 1967.

Wear, D.J., A.M. Margileth, T.L. Hadfield, *et al.* Cat-scratch disease: A bacterial infection. *Science* 221:1403–1404, 1983.

## CLOSTRIDIAL FOOD POISONING [illegible] ([illegible]) [illegible] ICD -10 A05.2 [illegible]

## ICD -10 A05.2 foodborne *Clostridium perfringens* [*Clostridium welchii*] intoxication

.Clostriodial Toxicosis [illegible] : [illegible]

(*C. Welchii* [illegible]) *Clostridium perfringens* [illegible] : [illegible] °45 [illegible] 41 [illegible] °60 [illegible] .(Labbe, 1989) [illegible] .E [illegible] A [illegible] .[illegible] °40 [illegible] °35 [illegible]

[illegible] A [illegible] : [illegible] E [illegible] B [illegible]

[illegible] A [illegible] %30 [illegible] 37 [illegible]

1980 - [illegible] 6093 [illegible] 62 [illegible] %7.4 [illegible] 1976 [illegible] %14.8 [illegible] 200 [illegible] 6 [illegible] 23.5 [illegible] .(Shandern *et al.*, 1983)

[illegible] 24 [illegible] 60 [illegible] 41 [illegible] %56 [illegible] .(Michanie *et al.*, 1983) [illegible] .C [illegible]

[illegible] E, D, C, B [illegible]

[illegible] A [illegible] °100 [illegible] °100 [illegible] 10

[illegible] 24 - 6 [illegible]
[illegible] .Preformed [illegible]
[illegible] A [illegible]
[illegible]
(96 – 76 [illegible]) [illegible] 50 [illegible]
[illegible] 11 [illegible]
(Larson and [illegible] 46 [illegible] 16 [illegible]
.Borrielo, 1988)

C [illegible]
[illegible]

[illegible] Necrolizing [illegible]
[illegible] 3 [illegible] 17 [illegible] A [illegible]
[illegible] 7 [illegible]
[illegible] .A [illegible]
[illegible] Necrotic [illegible]
.(Van Kessel *et al.*, 1985) [illegible]

[illegible] D [illegible]
[illegible]

[illegible] A [illegible]

[illegible] A [illegible]

[illegible] .(Gillespie and Timoney, 1981) [illegible] 12 - 6 [illegible] B [illegible]

[illegible] (Struck [illegible]) [illegible] C [illegible] .(Timoney *et al*., 1988) [illegible]

[illegible] D [illegible] E [illegible] .(Timoney *et al*., 1988) [illegible]

[illegible] A [illegible] (Terrors – Anjel *et al*., 1977) [illegible] A [illegible] .(Smith, 1965) [illegible]

[illegible] .(Craven, 1980) [illegible]

[illegible] .(Narayan, 1982) [illegible]

[illegible] %86 [illegible] (Narayan, [illegible] 174 [illegible] .1982)

[illegible]

.(Timoney *et al.*, 1988)

.(Timoney *et al.*, 1988)

75 4 37 8

(Van Baelen 9 16 3 11

.and Devriex, 1987)

48 - 24

[illegible] 48 [illegible] $10^6$ [illegible] °10 [illegible] 70 [illegible] %40 [illegible] .(Shandera, 1983) [illegible]

[illegible] .(Bartlett, 1990) [illegible]

[illegible] (Michanie *et al.*, 1993) [illegible]

[illegible]

[illegible]

Bartlett, J.G. Gas gangrene (other clostridium-associated diseases). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Craven, S.E. Growth and sporulation of *Clostridium perfringens* in foods. *Food Techn* 34:80–87, 1980.

Dobosch, D., R. Dowell. Detección de enterotoxina de *Clostridium perfringens* en casos de intoxicación alimentaria. *Medicina* 43:188–192, 1983.

Faich, G.A., E.J. Gangarosa. Food poisoning, bacterial. *In*: Top, F.M., P.F. Wehrle, eds. *Communicable and Infectious Diseases*. 7th ed. Saint Louis: Mosby; 1972.

Gillespie, J.H., J.F. Timoney. *Hagan and Bruner's Infectious Diseases of Domestic Animals*. 7th ed. Ithaca: Cornell University Press; 1981.

Hobbs, B.C. *Clostridium perfringens* and *Bacillus cereus* infections. *In*: Riemann, H., ed. *Food-borne Infections and Intoxications*. New York: Academic Press; 1969.

Labbe, R. *Clostridium perfringens*. *In*: Doyle, M.P., ed. *Food-borne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Larson, H.E., S.P. Borriello. Infectious diarrhea due to *Clostridium perfringens*. *J Infect Dis* 157:390–391, 1988.

Michanie, S., A. Vega, G. Padilla, A. Rea Nogales. Brote de gastroenteritis provocado por el consumo de empanadas de carne. *Alimentacion Latinoamer* 194:49–54, 1993.

Narayan, K.G. Food-borne infection with *Clostridium perfringens* Type A. *Int J Zoonoses* 9:12–32, 1982.

Roberts, R.S. Clostridial diseases. *In*: Stableforth, A.W., I.A. Galloway, eds. *Infectious Diseases of Animals*. London: Butterworths; 1959.

Rose, H.M. Diseases caused by Clostridia. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Shandera, W.X., C.O. Tacket, P.A. Blake. Food poisoning due to *Clostridium perfringens* in the United States. *J Infect Dis* 147:167–170, 1983.

Smith, H.W. Observations on the flora of the alimentary tract of animals and factors affecting its composition. *J Path Bact* 89:95–122, 1965. Cited in: Van Baelen, D., L.A. Devriese.

Presence of *Clostridium perfringens* enterotoxin in intestinal samples from farm animals with diarrhoea of unknown origin. *J Vet Med B* 34:713–716, 1987.

Smith, L.D.S. Clostridial diseases of animals. *Adv Vet Sci* 3:463–524, 1957.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

Torres-Anjel, M.J., M.P. Riemann, C.C. Tsai. *Enterotoxigenic* Clostridium perfringens *Type A in Selected Humans: A Prevalence Study*. Washington, D.C.: Pan American Health Organization; 1977. (Scientific Publication 350).

Van Baelen, D., L.A. Devriese. Presence of *Clostridium perfringens* enterotoxin in intestinal samples from farm animals with diarrhoea of unknown origin. *J Vet Med B* 34:713–716, 1987.

Van Kessel, L.J.P., H.A. Verbugh, M.F. Stringer, *et al*. Necrotizing enteritis associated with toxigenic Type A *Clostridium perfringens* [letter]. *J Infect Dis* 151:974–975, 1985.

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## ƖƑĬƘƲƊŽǁƑƓ ƝƝǰƥШǁƐ ŋjƝǰƐơƳ
## CLOSTRIDIAL WOUND INFECTIONS

**ICD 10 A 48.0 gas gangrene** ȟŭĬƦƑƸǁƐ ȟűĭƥƸǅƸǁƐ

ǦŋÅÊöă ʔşǼȞöă Ûğ ÅǯÛţÅ Myonecrosis ɄŸȒȞöă ÄǺÅöă ·ǦÅàÅ8öă ǦÅÅÄ8Å8öă ˙ğÅʑǻăÄţă ·( ğÅφăʑƐƩă Ž) ǦǯƐǦʅă Ǧŋǽʑöă Ûğ ÅƐăʑȽŸöÅ ŌŸŢă āÅȚǫöă ÛǦDzÊφƍǒ

*ǦǯǓÛţă* ·ɄȽ ǦƐƵÜ Äǯõɟă ţăʑφɟă ·ÙŸǫƲ ɄŋʑǫÄDZ ǨƐǦÅ dzşÄƨă ʔşǼȝ ÅƐȶǫǩ ˙ğÅƐǦǦÊöă *ǦƐŸÅǻǿʑÊöă ǦǯǓÛţă Û*Speticum *ǦÅǫÅţă ǦǯǓÛţă Û*novyi *ǦƐʑʑÅöă ǦǯǓÛţă Û(ǦƐÎöʑöă) ǦȶüÅƩă* ğÅǯÛţă Ōõ Ōǯŋ ¯ǈƐǫăÄƨă ȻØȽ ·*Fallax ǦƐÊȮöÅÅöă ǦǯǓÛţăş ÛǰÊÅŸö ǦöÅƩă ǦǯǓÛţă Û*Sordell ǦÅʑę ǦƐDZøÅǹ ğÅφÅÅÅæ ţăʑφɟă ȻØȽ ǰǫÅǩ ·ȟăʑæƍǒ ǦDzǫÅŋ ǦƐǝăʑȽ ɼş ÛÿăÄ8öă ǦƐǝÅƶÜ ğÅƐÔȝ ¯ *ǦȶüÅƩă ǦǯǓÛţă* ʑȽ ǦÅÄÎǦöă ǦÅâÅ8öă ǦÅÅÄ8Å8öă Ž ǦƐƵÜ Äǯõɟă ɄøǦǦÊöă ŌŋÅȞöă ·ǰÊÅöă āÄơ ·ğÅφăʑƐƩă Ž (ğÄÛƐÊţă) ǦǦöÅ8öă ɄȽ *ǦÅǫÅţă ǦǯǓÛţÅ* ʔşǼȞöă ·ᴬ ÙȶÅöă ¯ ɉÅÅØŸö ğǼöʑţă

·øÅÎǫɼă ɄţÅȝ ˙ŽăÄ8ƨă ţàʑǫöă

ȸŋÅæ ǨüÅǦǩøă Äǯõǔ ɉʑȮƐö ǦÅâÅ8öă ǦÅÅÄ8Å8öă ǴŸÛÔŋ ÿăǼÅǫèă ˙ɉÅÊφƍă Ž ǫşǼƩă ʔşǼȞöă ȻØȽ ȸŋ ăʑǨÅŋ Ǽę ɄøφÅţǓ ɃǼÅDZ ɉʑƐŸŋ ɉǓ øǼę ǼŌʑ ·ǈŸÊöă ȸŋă Ž ȼÅŋ āÄƩă

[illegible] 22 [illegible] 27 [illegible] 139.000 [illegible] .(Finegold, 1977) [illegible] 10 [illegible] .(Bartlett, 1990) [illegible]

[illegible]

[illegible] 3 [illegible] 6 [illegible] %60 [illegible] %80

[illegible]

(Bartlett, 1990)

(Finegold, 1977)

[illegible]

[illegible] Blackleg [illegible] *Chauvoei* [illegible]

[illegible]

[illegible]

[illegible]

## ǕøШƐƥøDžǁƐ


Bartlett, J.G. Gas gangrene (other clostridium-associated diseases). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals*. 6th ed. Ithaca: Comstock; 1973.

Finegold, S.M. *Anaerobic Bacteria in Human Disease*. New York: Academic Press; 1977.

Joklik, W.K., D.T. Smith. *Zinsser's Microbiology*. 15th ed. New York: Meredith; 1972.

MacLennan, J.D. The histotoxic clostridial infections of man. *Bact Rev* 26:177–274, 1962.

Prévot, A.R., A. Turpin, P. Kaiser. *Les bactéries anaerobies*. Paris: Dunod; 1967.

Rose, H.M. Disease caused by clostridia. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Rosen, M.M. Clostridial infections and intoxications. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Smith, D.L.S. Clostridial diseases of animals. *Adv Vet Sci* 3:465–524, 1957.

Smith, L.D., L.V. Holderman. *The Pathogenic Anaerobic Bacteria*. Springfield: Thomas; 1968.


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# COLIBACILLOSIS ǶǐǛǋǁǊǂǁƐ ǀƑǏƬƴǁƐ ƅƐǬ

ǕƅƑƴDžǔǁ ǶƮƥDžDžǁƐ *ǶǐǛǋǁǊǂǁƐ ǶǏǀǏƥ ǀǕƐ* njNjǬY **ICD- 10 A04.0**

*njNjǬY* **A04.2** ǕǎNjƴDžǁƐ DžƑƨǏƤǂǁ ǶШǂǛDžǁƐ *ǶǐǛǋǁǊǂǁƐ ǶǏǀǏƥ ǀǕƐ* njNjǬY**AO 40.1**

*ǶǐǛǋǁǊǂǁƐ ǶǏǀǏƥ ǀǕƐ* njNjǬY **AO 40.3** ǕƅƑƴDžǔǁ ǶǐƦƑƩǁƐ *ǶǐǛǋǁǊǂǁƐ ǶǏǀǏƥ ǀǕƐ*

ǎNjƴDžǁƐ ƺƦǛǂǁ DžY ǶDžШƑǛǁƐ

**ICD- 10 A04.0 enteropthogenic *Escherichia coli* infection; AO 40.1 enterotoxigenic *Escherichia coli* infection; A04.2 enteroinvasive *Escherichia coli* infection; AO 40.3 enterohemorrhagic *Escherichia coli* infection**

ǕǦĿųǭǒǭǑǚ ǧǞǼǑǶǞǽ ǭǼǚ ǉƭǨǩ Ǖcolibacteriosis ǦĿųǭǒǭǑǚ ǉĿǚǞƨǟ ǒǟǻ ፡ǧǞǭǻǟǞƫǟ ·ǒǞǶƞǪǑ ǑǞƭƫǟ ǑǞǮèǬǟ

ǦǛĿǑǞǑ (*E.coli*) *ǦĿųǭǒǭǑǚ ǦĿǑǞǐǬǟ* ƀƭǪǞ ፡ƀDžƺǒǭǞǞǼǞǑǚ ǑǟǞƞǬǟȘ ǧǞĿǦǨǑǚ

(Kauffman) ... H ... 17 ... F ... K ... 56) ... (Fimbrial) ... O:H ...

O157:H7 ... (Riley *et al*) 1983 ... 1993/2/ 28 ... 1992/5/15 ... 470 ... (Spencer 1993. Dorn 1993) ... O157:H7 ... (1991) ...

[illegible] O45: H2 [illegible] O26: H11 [illegible] O4, O111, O145 [illegible] 60 [illegible] K Shiga-like [illegible] 1 [illegible] (HeLa[illegible] Vero [illegible]) [illegible] 2[illegible] 1 [illegible] (O' Brien and [illegible] verotoxin [illegible] .Holmes 1987) [illegible]

[illegible] O157:H7 [illegible] .(Griffin and Tauxe 1991) [illegible]

10 [illegible] 17 [illegible] :1992 – 1982 [illegible] :1992 [illegible] 243 [illegible] .1993 [illegible] .(CDC, 1993) [illegible] 100 [illegible] 8 [illegible] 18 [illegible] 13 [illegible] :(1992 – 1982) [illegible]

.(Grittin and Tauxa, 1991) [illegible]

[illegible] 25 [illegible] 28 [illegible] 7000 [illegible] %5 [illegible] .O157: H7 (Spencer, 1993) [illegible] %10 - 5 [illegible] O157: H7 [illegible] .(Dorn, 1993) [illegible]

[illegible] 9-2 [illegible] %50 [illegible] 4 [illegible] %95 [illegible] %75 - 56 [illegible] .(Griffen and Tauxe, 1991) [illegible] O157:H7 [illegible] (HUS) [illegible]

[illegible] %7-2 [illegible] .(Griffan, 1991) O157:H7 [illegible] O157:H7 [illegible] .(Carter *et al.*, 1987) [illegible] .(Dorn, 1993) [illegible] .O157:H7

[illegible] 6 [illegible] 9 [illegible] 1989 [illegible] %75 [illegible] 12 [illegible] 243 [illegible] .(Dorn, 1993) [illegible]

[illegible] (SMAC) [illegible] O157:H7 [illegible]

.(Doyle and Padhye, 1989)

antigenic

O:H

.(WHO, 1991) CS6 SC1 CFA-1

987P (K88) F4 .(K99) F5

.987P F41 (K99) F5 K88 (F4)

[illegible] 3 [illegible] 2 [illegible]

[illegible] 72 – 12 [illegible]

[illegible] DNA [illegible]

[illegible]

[illegible] Oregon [illegible] 1975 [illegible] 2000 [illegible]

400

.(Doyle and Padhye, 1989)

18 - 10

%5-1

.(Beneson, 1990)

ĞĦ3ÄÄţä ĞÊÄÄÕţä ÄÄζÛǩ Ź ÆÕö ·ĞÄøÄŢŢöä ÄÄŸʅä şÂɖ ɂŸ3 ÄőøÆȩ dzÄȒÄɋ öÄĦɳɊö ĞÄâÄ8öä ĝøÆÕöä) Ğ3ζÄöä åÆ3 ɃØöäş ÿζǫÄDzŸö ɄĦɄÛÊöä öÄÎ8öä Ž ÆĦǫĞĞöä ğäÆÄÆ3 ȣÄÎǫõɍ ĞĦɛÂɸɋä ·(ĞÄşÂ8öä

ôÄţ ĞĦĞĞÊöä ǑɳäζĦöä åζĦǩ :(EPEC) öÄĦɳɊö Ğȓ Äȶţä *ĞĦǫζǒζǑöä ĞĦǑÄÄÌɋä* (å ǑǑÎä ôÄţä ǫÆ3 ·*ĞĦǫζǒζǑöä ĞĦǑÄÄÌɋä* ȸɳ 15O ĞĦŸÔţä ğÄ3ζȶDzȶŸö ɃζĦţä öŸǫ3ɍä ·ĦĦÄǩÄɳ ğÄĦζş öÆĦɳ ȴŢÄÆö ÆĞÊÄ Æȩş ÛĞÄÊöä Äȶ3 ĶƠ3ȓÄöä öÄÄùɉä ÆÄ3 Ƃşǖ øşå ·ȣÄÄθş Ûɂƥ ÛɄəÄɳ ÿå ȷşÆä ȓÄƯ ɂŸ3 Ƀζǫ3 ɄəÄɳ öÄŢèüä ôÄţä äÄǫɛ ·ĶÔȩ ĞɸÄȒΣä

ğÄÄɍζöäş ÄäşøşǗ Ž ĦĦŸȶ3 ɂÄǫǹä Æȩş ÛĞĦɳÄÄöä ȷäÆŸĞöä Ž Ƃşǖ ǑǑÎä ôÄţä ǫÆ3 ǰÄÂɳ ɄȽ ɁşÆĦöä øåÄÔɳş (ɄÄĦÔöä öÄŢèɋä) ĞÄζäÆöä öζÔÄöä Ž ÆŸɖɉä Ž ǫÆ3 ·ğÆĦɄǫţä ÄÄøäζǑŸö öɄÊöä ζĦŢÄǫöä ÆĞÊä Ğǫζŷɳ ǴĞÔǩ ɄøǫöäşÿÄÛÄöä ĞȶĦüǖş (ÆĦŸΣä) ƟŸöä ȸɳ Ž ÄǩäζǫɳǑǑÎä öÄÄùɉä ôÄĦǫÄ ·ÿɉä ÆÄ3 ĞòζǑÄţä ĞĦÔÅÎöä ĞζÄŢÄöä şǗ ÛğÄȶŸΣäş ȷζĞÊǫǑÄş öÄĦɳɊö Ğȓ Äȶţä *ĞĦǫζǒζǑöä ĞĦǑÄÄÌȒö* ĝĶǑÄöä ĞĦ3ÄȶǫDzɍä ĞÄåÄÔǫȩɍä ğÄ3ζȶǑöä ôÄÄø Ž ȷäÆöζöä ÆÄ3 ɄəÄäζöä öÄŢèɋä Ž ·ĝÄĦɄŸö Ƃşɉä ĞÄÊöä ÆĦä ÿÄ3 ǑǑÎä Ğ3ÄÄţä ȒĦä ĶÄòş ÆÕö ·ǫζŸţä øÄĞ8öä öŸǹ ȸɳ Ǒöäş ȸǑƣ öäζŢÄä öζǑÄţä öÄǑǫɍä ·öÄÄùɉä ·ĦȒÄǗ Ƙ8öÄĞöä ɁÆö ğÄĦìÄÄöä

åÆ3 Äţÿǵ ·äÄƎöä ȸɳ ĝåÄÄǫÊţä *ĞĦǫζǒζǑöä ĞĦǑÄÄÌɋä* (ɄŸÔţä Ùȶÿöä åÆ3) ÙȶÄǩ ȷǗ Æƶ ĞöşÄɉ DNA ÄɸÆöä øÄĞÊɳ ÿäÆÅǫèä Æƶ ·öÄĦɳɊö Ğȓ Äȶţä *ĞĦǫζǒζǑöä ĞĦǑÄÄÌȒö* ɄŸÔţä Ùȶÿöä ɃøäøÆ ÄŢŢǩ ·ğÆĦɳäŸĞöä ɂŸ3 ÆȶǫĦɳ ζȽ ɃØöş öÄĦɳɊö Ğȓ Äȶţä ȧÄÔǫöä Ǒɳä3 ɂŸ3 ȣÄĦǫöä ·HEP-2 ÄÄŸǹ ɂŸ3 ĦĦĦȓζɳ ĞǑÔǫŸɳ ĦȒÄǗ öÄĦɳɊö Ğȓ Äȶţä

öÄÄùɉä ôÄÄøş ŽÄÎţä Ž ɂȓÄţä öÄÄùɊö ĞŸÔÄÄɳ ĞζÄɖ ÆDzζǩ ȷǗ Æƶ ·ĞÄäşɉä Ž äæǗ ĞÄÆÄøζöä ǑĦöÄɉä şǗ ÛĞÄζȶζ ĞĦɄŸɳ ǑĦöÄɄɳ öøÄŢǑöä ĞȓÄ3Ǘ ɂŸ3 Ƃşǖ ǑǑÎä ĶäÆǫöä ÆȶǫĦÄ· ȸǑɛ ĝĶÛʅä ğɍÄΣä Ž ·ğɍÄΣä ÆŸɖǗ Ž ÄǹǗ ĶäÆǫö ĞDZÄǵ õÄĦȽ ȨĦö ÛĦÄøşÄȓ ȷÄõ ÄȶǫÊÄ ȷǗ Æƶ ·öÄŢèɋä ĝÆɳş ĝÆì ǑǑÄÄ Ƀøöäş ɃζȶÄöä öşäÄɛÄǩζǑöä ǑÄÛöä öÄÛ3Ǘ

[illegible] .(Beneson, 1990)

[illegible] HEP-2 [illegible] 40 [illegible] 42 [illegible] 1 [illegible] 1 [illegible] DNA [illegible]
.(Vial *et al* 1988: Levine *et al* 1988)

[illegible]
.(Benenson, 1990) [illegible] 2-1 [illegible]

[illegible]

[illegible] (Whtie Scours [illegible] 10 [illegible] 36 - 24 [illegible] M [illegible]

[illegible]

.(K99) F5

.(Gillespirand Timoney, 1981)

%5 %1

12 %50

ST

.(Gillespie and Timoney, 1981) LT

987P F41. (K99) F5 (K88) F4

(K88) F4

[illegible] (Casey *et al*., 1992) [illegible]

[illegible] 14-6 [illegible] (Nielsen, 1986) [illegible] %100 - 20 [illegible] %35 - 10 [illegible] (Dobrescu, 1983 Marques *et al*., 1987 [illegible] "HeLa" [illegible] Vero [illegible] Kausche *et al.,* 1992).

[illegible] (Timoney *et al*., 1988) [illegible] (O'Brien, 1985) %4 [illegible] 3 [illegible] 3-2 [illegible]

(White *et al* 1990, Pages Mante and Costa Quintana

Hjarre's

1987)

(1989)

(Black *et al.*, 1981)

LT

ST

78 :H12

(Echeverria *et al.*, 1978, cited in Doyle and Padhye

1989)

(Du Pont *et al.*, 1971, Cited in Doyle and Padhye, 1989)

[illegible]

.(Timoney *et al.*, 1988)

[illegible]

[illegible] (K88) F4 [illegible] (K9) F5 [illegible] (K99) F5 [illegible] (Rutter *et al* 1976, Nagy 1980, Myers 1978) [illegible] (Levine and Lanatu, 1983) [illegible]

## [illegible]


Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Biester, H.E., L.H. Schwarte, eds. *Diseases of Poultry*. 4th ed. Ames: Iowa State University Press; 1959.

Binsztein, N. Estudio de la diarrea. Factores de virulencia and mecanismos fisiopatogénicos. *Bacteriol Clin Argent* 1:138–142, 1982.

Black *et al*., 1981. Cited in: Doyle, M.P., V.V. Padhye. *Escherichia coli*. *In*: Doyle, M.P., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Carter, A.O., A.A. Borczyk, J.A. Carlson, *et al*. A severe outbreak of *Escherichia coli* O157:H7-associated hemorrhagic colitis in a nursing home. *N Engl J Med* 317:1496–1500, 1987.

Casey, T.A., B. Nagy, H.W. Moon. Pathogenicity of porcine enterotoxigenic *Escherichia coli* that do not express K88, K99, F41, or 987P adhesins. *Am J Vet Res* 53:1488–1492, 1992.

Chin, J., ed. *Control of Communicable Diseases Manual*. 17th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 2000.

Dobrescu, L. New biological effect of edema disease principle (*Escherichia coli* neurotoxin) and its use as an in vitro assay for this toxin. *Am J Vet Res* 44:31–34, 1983.

Dorn, C.R. Review of foodborne outbreak of *Escherichia coli* O157:H7 infection in the western United States. *J Am Vet Med Assoc* 203:1583–1587, 1993.

Doyle, M.P., V.V. Padhye. *Escherichia coli*. *In*: Doyle, M.P., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Du Pont *et al.*, 1971. Cited in: Doyle, M.P., V.V. Padhye. *Escherichia coli*. *In*: Doyle, M.P., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Echeverria *et al.*, 1978. Cited in: Doyle, M.P., V.V. Padhye. *Escherichia coli*. *In*: Doyle, M.P., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Edwards, P.R., W.H. Ewing. Identification of *Enterobacteriaceae*. 3rd ed. Minneapolis: Burgess; 1972.

Ellens, D.J., P.W. de Leeuw, H. Rozemond. Detection of the K99 antigen of *Escherichia coli* in calf feces by enzyme-linked immunosorbent assay (ELISA). *Tijdschr Diergeneeskd* 104:169–175, 1979.

Fraser, C.M., J.A. Bergeron, A. Mays, S.E. Aiello, eds. *The Merck Veterinary Manual*. 7th ed. Rahway: Merck; 1991.

Gay, C.C. *Escherichia coli* and neonatal disease of calves. *Bact Rev* 29:75–101, 1965.

Gillespie, J.H., J.F. Timoney. *Hagan and Bruner's Infectious Diseases of Domestic Animals*. 7th ed. Ithaca: Comstock; 1981.

Griffin, P.M., R.V. Tauxe. The epidemiology of infections caused by *Escherichia coli* O157:H7, other enterohemorrhagic *E. coli*, and the associated hemolytic uremic syndrome. *Epidemiol Rev* 13:60–98, 1991.

Kausche, F.M., E.A. Dean, L.H. Arp, *et al.* An experimental model for subclinical edema disease (*Escherichia coli* enterotoxemia) manifest as vascular necrosis in pigs. *Am J Vet Res* 53:281–287, 1992.

Levine, M.M., C. Lanata. Progresos en vacunas contra diarrea bacteriana. *Adel Microbiol Enf Infec* 2:67–118, 1983.

Levine, M.M, V. Prado, R. Robins-Browne, *et al.* Use of DNA probes and HEp-2 cell adherence assay to detect diarrheagenic *Escherichia coli*. *J Infect Dis* 158:224–228, 1988.

Marques, L.R.M., J.S.M. Peiris, S.J. Cryz, *et al.* *Escherichia coli* strains isolated from pigs produce a variant Shiga-like toxin II. *FEMS Microbiol Lett* 44:33–38, 1987.

Merson, M.H., R.H. Yolken, R.B. Sack, J.L. Froehlich, H.B. Greenberg, I. Huq, *et al.* Detection of *Escherichia coli* enterotoxins in stools. *Infect Immun* 29:108–113, 1980.

Mills, K.W., K.L. Tietze, R.M. Phillips. Use of enzyme-linked immunosorbent assay for detection of K88 pili in fecal specimens from swine. *Am J Vet Res* 44:2188–2189, 1983.

Myers, L.L. Enteric colibacillosis in calves: immunogenicity and antigenicity of *Escherichia coli* isolated from calves with diarrhea. *Infect Immun* 13:1117–1119, 1978.

Nagy, B. Vaccination of cows with a K99 extract to protect newborn calves against experimental enterotoxic colibacillosis. *Infect Immun* 27:21–24, 1980.

Nielsen, N.O. Edema disease. *In*: Leman, A.D., B. Straw, R.D. Glock, *et al.*, eds. *Diseases of Swine*. 6th ed. Ames: Iowa State University Press; 1986.

O'Brien, A.D., R.K. Holmes. Shiga and Shiga-like toxins. *Microbiol Rev* 51:206–220, 1987.

O'Brien, J.D. Swollen head syndrome in broiler breeders. *Vet Rec* 117:619–620, 1985.

Pages Mante, A., L. Costa Quintana. Síndrome de cabeza hinchada (SH). Etiología and profilaxis. *Med Vet* 4:53–57, 1987.

Riley, L.W., R.S. Remis, S.D. Helgerson, *et al.* Hemorrhagic colitis associated with a rare *Escherichia coli* serotype. *N Engl J Med* 308:681–685, 1983.

Robins-Browne, R.M., M.M. Levine, B. Rowe, E.M. Gabriel. Failure to detect conventional enterotoxins in classical enteropathogenic (serotyped) *Escherichia coli* strains of proven pathogenicity. *Infect Immun* 38:798–801, 1982.

Rowe, B., J. Taylor, K.A. Bettelheim. An investigation of traveller's diarrhoea. *Lancet* 1:1–5, 1970.

Rutter, J.M., G.W. Jones, G.T. Brown, M.R. Burrows, P.D. Luther. Antibacterial activity in colostrum and milk associated with protection of piglets against enteric disease caused by K88-positive *Escherichia coli*. *Infect Immun* 13:667–676, 1976.

Ryder, R.W., R.A. Kaslow, J.G. Wells. Evidence for enterotoxin production by a classic enteropathogenic serotype of *Escherichia coli*. *J Infect Dis* 140:626–628, 1979.

Saltys, M.A. *Bacteria and Fungi Pathogenic to Man and Animals*. London: Baillière, Tindall and Cox; 1963.

Spencer, L. Escherichia coli O157:H7 infection forces awareness of food production and handling. *J Am Vet Med Assoc* 202:1043–1047, 1993.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Preliminary report: Foodborne outbreak of *Escherichia coli* O157:H7 infections from hamburgers—western United States, 1993. *MMWR Morb Mort Wkly Rep* 42:85–86, 1993.

Vial, P.A., R. Robins-Browne, H. Lior, *et al*. Characterization of enteroadherent-aggregative *Escherichia coli*, a putative agent of diarrheal disease. *J Infect Dis* 158:70–79, 1988.

White, D.G., R.A. Wilson, A. San Gabriel, *et al*. Genetic relationship among strains of avian *Escherichia coli* associated with swollen-head syndrome. *Infect Immun* 58:3613–3620, 1990.

Williams, L.P., B.C. Hobbs. *Enterobacteriaceae* infections. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

World Health Organization (WHO). Research priorities for diarrhoeal disease vaccines: Memorandum from a WHO meeting. *Bull WHO* 69:667–676, 1991.

World Health Organization Scientific Working Group. *Escherichia coli* diarrhoea. *Bull WHO* 58:23–36, 1980.

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## CORYNEBACTERIOSIS ǀ ƑĭƢǂǋǁƐ ƄƐƢ

### ƥƢƆ ǲƑǀǲ Ĭƺ ƕƺǆƬǲ ƥĭƷ ǌƥƢƇ ƕĭǲǋƙƥƜ ƒ ƐƥǲƇ A48 ICD-10

### A48 ICD-10 Other bacterial diseases, not elsewhere classified

öƟÎöä ȒĦä ǦÆĦÀŋ ğÀÔȝ ȸŋ *Corynebacterium* ǦÀÆǩζöä ȄÀǲ Ȥöüǫ ׃ğÀǤǤÊöä ǦÆäζȽ ǕȟäζäƢǭ ǦDzǫÀŋ Ƙɖ ǕǦȚÀĦɰ Ƙɖ ǕǦõÀĦǫŋ Ƙɖ ·Ȓ ȶΣÀä ğÆŋÀö Ƙɖ ǕyäÀ8öä ǦÆäÀƶǕ ǕNocardia ǦÀáøÀõζÀöä ȝŋ ȄÀƨä äØȽ ǕǦǩÀÀ ·äɟÀǩÀÒöä ǦÆäÀƶǕ ǕǦÆäζȽ Ƙɖ ȿǕ ǦÀøÀǫǹä .*Mycobacterium* ğÀǕÀǫȶȿ Ǖ*Rhodococcus* ğÀȶ ǂȿ

[illegible] C.diphtheriae [illegible] C.renale [illegible] (C. bovis [illegible]) C.pseudotuberculosis [illegible] .Diphtheroids [illegible]

[illegible] C. bovis [illegible] .ulcerans [illegible] 3 [illegible] C.kutscheri [illegible] .C.Custitidis [illegible] C. Pilosum [illegible] Crenale

[illegible]

[illegible]

[illegible] C.bovis [illegible] .(Gillespie and Timoney 1981) [illegible] C.renale [illegible] .(Wiggins *et al* 1981) [illegible] C.kutscheri [illegible]

[illegible] .(Brawn, 1990)

[illegible]
.(Brown 1990; Kerch and Hollis 1991) [illegible]
[illegible] :C. bovis [illegible]
[illegible]
(Vale and Scott 1977, [illegible]
.Brown 1990)

[illegible] :C. renale [illegible]
[illegible] :C.kutscheri [illegible]
(Kerch and [illegible] Hollis, 1991)
[illegible]

.(Brown, 1990) [illegible]

[illegible]
.(Timoner *et al.*, 1988) [illegible]

[illegible]

[illegible] *C. pilosum* [illegible]

*C. Cystitidis:* [illegible] *C. bovis* [illegible]

[illegible] *C. ulcerans* [illegible]

(Lipsky *et al.*, 1982) [illegible] (*Spermophilus richardsoni*) [illegible] (%18) 63 [illegible] 350 [illegible]

(Olson *et al.*, 1988) [illegible] 10 [illegible] 4 [illegible]

(May, 1972) [illegible]

C.kutscheri 15

.(Fraser *et al.*, 1991)

*C. diphtheriae* 6 300

.(Okewole *et al.*, 1990)

(Timoney *et* .*al.*, 1986)

[illegible] .(Brown, 1990)

[illegible] 74 [illegible] (Brooks *et al.*, [illegible] %36 [illegible] .1983)

[illegible] *Polisum* [illegible] *Polisum* [illegible]

[illegible]

[illegible]

[illegible]

## ÙøШɛþøDŽǁɛ


Brooks, B.W., D.A. Barnum, A.H. Meek. An observational study of *Corynebacterium bovis* in selected Ontario dairy herds. *Can J Comp Med* 47:73–78, 1983.

Brown, A.E. Other corynebacteria. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Fraser, C.M., J.A. Bergeron, A. Mays, S.E. Aiello. *The Merck Veterinary Manual*. 7th ed. Rahway: Merck; 1991.

Gillespie, J.H., J.F. Timoney. *Hagan and Bruner's Infectious Diseases of Domestic Animals*. 7th ed. Ithaca: Comstock; 1981.

Krech, T., D.G. Hollis. *Corynebacterium* and related organisms. *In*: Balows, A., W.J. Hausler, K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Lipsky, B.A., A.C. Goldberger, L.S. Tompkins, J.J. Plorde. Infections caused by nondiphtheria corynebacteria. *Rev Infect Dis* 4:1220–1235, 1982. Cited in: Krech, T., D.G. Hollis. *Corynebacterium* and related organisms. *In*: Balows, A., W.J. Hausler, K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

May, B.D. *Corynebacterium ulcerans* infections in monkeys. *Lab Anim Sci* 22:509–513, 1972.

Meers, P.D. A case of classical diphtheria and other infections due to *Corynebacterium ulcerans*. *J Infect* 1:139–142, 1979.

Okewole, P.A., O.S. Odeyemi, E.A. Irokanulo, *et al. Corynebacterium diphtheriae* isolated from guinea pigs. *Indian Vet J* 67:579–580, 1990.

Olson, M.E., I. Goemans, D. Bolingbroke, S. Lundberg. Gangrenous dermatitis caused by *Corynebacterium ulcerans* in Richardson ground squirrels. *J Am Vet Med Assoc* 193:367–368, 1988.

Rountree, P.M., H.R. Carne. Human infection with an unusual corynebacterium. *J Pathol Bacteriol* 94:19–27, 1967.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barbough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

Vale, J.A., G.W. Scott. *Corynebacterium bovis* as a cause of human disease. *Lancet* 2:682–684, 1977.

Van Etta, L.L., G.A. Filice, R.M. Ferguson, D.N. Gerding. *Corynebacterium equi*: A review of 12 cases of human infection. *Rev Infect Dis* 5:1012–1018, 1983.

Wiggins, G.L., F.O. Sottnek, G.Y. Hermann. Diphtheria and other corynebacterial infections. *In*: Balows, A., W.J. Hausler, Jr., eds. *Diagnostic Procedures for Bacterial, Mycotic and Parasitic Infections*. 6th ed. Washington, D.C.: American Public Health Association; 1981.

Willet, H.P. *Corynebacterium*. *In*: Joklik, W.K., H.P. Willet, D.B. Amos, eds. *Zinsser Microbiology*. 17th ed. New York: Appleton-Century-Crofts; 1980.


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## DERMATOPHILOSIS ɩɛǫǂШDŽǁɛ ƅɛǫ

**ǌþǪʗ ЋĭŸǋǳ ЋĭDŽǋķþШ ƒ ɛþDžʗ ICD-10 A48.8**
**ICD-10 A48.8 other specified bacterial diseases**

·(ỹÀÀȡǂă Ž) ɃøÅÛÀöă ÆŸƨă ā ÀƮǬöă ÛStreptothrichosis ǦÀÀĤÎöă ğÀÀÆŐĤöă ŏăá ꞉ğÀȥáãÀţă

(*D. dermotonomous* [illegible] *Dermatophilus congolensis* [illegible] *Actinomycetales* [illegible] *D. Pedis*) [illegible] zoospores [illegible]

[illegible]

[illegible] 1961 [illegible] (Keplan 1980; Portugal and [illegible] Baldassi 1980) [illegible]

[illegible] %90 [illegible] %16 [illegible] %20 [illegible]

[illegible] 14 - 3 [illegible]

[illegible] (Semispecific [illegible]) [illegible] III [illegible] (body strike [illegible]) *Lucillia cu prina* [illegible] .(Gherardi *et al.*, 1981)

[illegible] foot [illegible] rot [illegible]

[illegible]

[illegible] (1977) [illegible] (Sanders *et al.*, 1990) [illegible] (Koney and Marrow, 1990) [illegible]

[illegible]

[illegible]

[illegible]

[illegible] (Wright's stain [illegible]

[illegible] .(Makinde and Majiyagbe, 1982) [illegible]

[illegible]

[illegible] .1% alum dips [illegible]

700000 [illegible] 70 [illegible]

ǒÀȒŐǟş ȸŋÂŋ ŌȮȊǻ ǦȒÀȶǟ ğÀǾǟǬĿΣǟ ȸŋ ȌŸÁǫǟ şǛ /ȯÂȝ ǦȖȅǟǬǻ ʔşǼȞǟ ǴǬÀȮł ğÀȒȝ ǦĦǬÀȮţ ǦÀÀȊΣǟ ğǟǼĿȶŸǒ ɄǱøÀʅǟ ȨĿǛȖǫǟ ŌȶȞǫÊΛ ·ǦĿǫǟƎǒǟ ğÀĿŸĿÀȖǒǟ ʔŸȝ ·ğǟÀȊΣǟ

(Sutherland and ǦĿǤÀÀθ ǦŸǵÀŋ Ž ǬĿ ɄøǬǬĿΣǟ ğǟǼŸǪŐǟ ǒǟǻ Ǽȓ ǳÀǑǒ Ǧȅǟøǻ ȷǛ
.Robertson 1988, How *et al*., 1990)

## ǕøШƐþøǄǁƐ


Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agriculture Bureau; 1973.

Bida, S.A., S.M. Dennis. Sequential pathological changes in natural and experimental dermatophilosis in Bunaji cattle. *Res Vet Sci* 22:18–22, 1977.

Carter, G.R. *Diagnostic Procedures in Veterinary Microbiology*. 2nd ed. Springfield: Thomas; 1973.

Dean, D.J., M.A. Gordon, C.W. Sveringhaus, E.T. Kroll, J.R. Reilly. Streptothricosis: A new zoonotic disease. *N Y State J Med* 61:1283–1287, 1961.

Gherardi, S.G., N. Monzu, S.S. Sutherland, K.G. Johnson, G.M. Robertson. The association between body strike and dermatophilosis of sheep under controlled conditions. *Aust Vet J* 57:268–271, 1981.

Gordon, M.A. The genus *Dermatophilus*. *J Bacteriol* 88:508–522, 1964.

How, S.J., D.H. Lloyd, A.B. Sanders. Vaccination against *Dermatophilus congolensis* infection in ruminants: Prospects for control. *In*: Tcharnev C., R. Halliwell, eds. *Advances in Veterinary Dermatology*. London: Baillière Tindall; 1990.

Kaplan, W. Dermatophilosis in man and lower animals: A review. *In*: *Proceedings of the Fifth International Conference on the Mycoses. Superficial, cutaneous, and subcutaneous infections. Caracas, Venezuela, 27–30 April 1980*. Washington, D.C.: Pan American Health Organization; 1980. (Scientific Publication 396).

Koney, E.B.M., A.N. Morrow. Streptothricosis in cattle on the coastal plains of Ghana: A comparison of the disease in animals reared under two different management systems. *Trop Anim Health Prod* 22:89–94, 1990.

Makinde, A.A., K.A. Majiyagbe. Serodiagnosis of *Dermatophilus congolensis* infection by counterimmunoelectrophoresis. *Res Vet Sci* 33:265–269, 1982.

Pier, A.C. Géneros *Actinomyces, Nocardia y Dermatophilus*. *In*: Merchant, I.A., R.A. Packer. *Bacteriología veterinaria*. 3.ª ed. Zaragoza, España: Acribia; 1970.

Portugal, M.A.C.S., L. Baldassi. A dermatofilose no Brasil. Revisão bibliográfica. *Arq Inst Biol* 47:53–58, 1980.

Roberts, D.S. *Dermatophilus* infection. *Vet Bull* 37:513–521, 1967.

Sanders, A.B., S.J. How, D.H. Lloyd, R. Hill. The effect of energy malnutrition in ruminants on experimental infection with *Dermatophilus congolensis*. *J Comp Pathol* 103:361–368, 1990.

Sutherland, S.S., G.M. Robertson. Vaccination against ovine dermatophilosis. *Vet Microbiol* 18:285–295, 1988.

## [illegible]
## DISEASES CAUSED BY NONTUBERCULOUS MYCOBACTERIA

[illegible] **A 31.1** [illegible] **ICD – 10 A31.0**

[illegible] **A31.8**

**ICD – 10 A31.0 Pulmonary mycobacterial infection; A 31.1 Cutaneous mycobacterial infection; A31.8 Other mycobacterial infections**

[illegible] (Mycobacteriosis [illegible]

[illegible] (NTM) [illegible] (*Mycobacterium tuberculosis* [illegible] *M.microti* [illegible] (*M.africanum* [illegible] (*M. bovis* [illegible]

[illegible] 15 [illegible] (MAC) [illegible] (*M. avian – intracellulare*) MAI [illegible] .MAIS (*M. avian – intracellulare – scrofulaceum*) [illegible]

[illegible] (*M.paratuberculosis* .(Grange *et al.*, 1990) [illegible]

[illegible] .(Sunderson *et al.*, 1992) [illegible]

Ž ÀŁȤƴ ŌDZǗ ȸŋ (ǼÀǼΣā ÙāÀ ǈĦı̀) ƙǪõÀȤȮĿŧŸ ÀƮǦŸÛǪ ǦĿŸÊā gKŢǷ gÀÛÀǪţā ÂĿǪ
ƙǪõÀȤȮĿţā ɁŸȝ gǼŧǪĦŋ ÀŒǗ Ž ǦÀKÛā gÀÛÀǪţā ǼõÀŋ ǦõÀÎŋ ƁǿāǿƋ ĦRÀǗ õÀŁ ÜҠǦÀǪÊţā
(*Palumba* ƁƎā ȳÀŧΣā ȸŋ gåÀÀǪÊţā ƁǿāǿǾā ŌŸǨ ÀƮÀƋ ȸŋȘ ÛÀǯõǗ ȘǗ ŌȩǗ ǦDZǿǼõ
Ž ÀT ɄǿǦÀDzǪā ǴĿŌŸǪā ȯŸǹ ȸŋ ŌÊā ƘŢÀō ĦõÀÎŋ ĦȑÀŋ ǫǼƠ ɄǿǪāȘ Û*Palumbus*)
·ǦĿı̀Àţā
ÛǦāǼÀȮā ǦĿŸÊā gÀÛÀǪţā ÛǦÀKÛā gÀÛÀǪţā ȷǗ DNA ÀǷǼā ƙDző ·ÀǷǼā ğÀèāǿǻ ǨĦȑȘǗ
·ǻÀÀŋ ɄǿĦDZ ţȤÀō ɄŧǪǨ (*Palumba Palumbus*) ɄǿāǿȘǰā ƁƎā ȳÀŧΣā ğāÀÛÀǪŋȘ
ğÀĿāȤǪŋȘ ÛƙǪõÀȤȮĿţā ɁŸȝ gǼŧǪĦţā ğāÀÛÀǪŧŸ ƁǻǼĦā ȤĦÔǪā ğÀèāǿǻ ƂǗ ǻÀǪèɍÀ
·ƂǗ ţāȤǷǰā ǈĿÊŌǨ 1990 ȼȩÀȤǿȘ ŌÀǿȤǨ ȡÀĦȩā ÛɁÀǹǗ ğÀèāǿǻȘ ɄǿĦƨā ÙŧÀāȘ Û DNA
gKŢǷ ȝÀȤǷ ǦÀKÛā gÀÛÀǪţā Û*M. avium subsp. Avium* ǦÀKÛā ȝÀȤǷ ǦÀKÛā gÀÛÀǪţā
*M. avium* ǦȒȒÀţā ȝÀȤǷ ǦÀKÛā gÀÛÀǪţā M. *avium subsp paratuberculosis* ǦĿŸÊā
·ǦÀƎā ǦŋÀŧΣā ȸŋ gåÀÀǪÊţā gÀÛÀǪţā ȨȤāȤǪè gKǹǰāȘ Û*subsp. silvaticum*
ǦǭŸǭ ȯȘǗ ɄŧǪǨ :(28 – 1) ĦŸÔŋ ĦÛƴ 28 ȸŋ (MAC) ǦÀKÛā gÀÛÀǪţā ǼõÀŋ ȷȤȮǪÀ
ȼÀȮōȘ ÛǫÀƜǰā Ž Ħŧȩ ȷÀõ ɄŸÔţā ÙĿŧÀǪō ·ǦǷāȤƨā gÀÛÀǪŧŸ ǦĿŌǪţāȘ ÛǦÀKÛā gÀÛÀǪŧŸ
ȳÀĦā Ž Runyon's ȤĦÔǨ ÀȤÛǨ Ź ·ȤȩȘǗ ǼȩȘ ǦĿǼǨȘÀā ğāƎǪǺţā Ž ȨĿǦÛǪŸō ŌāȩƘȡ
:1 ǦȝȤŧƒ :gKǦõ ğÀȝȤŧƒ ȝāǿǗ ƂǗ ğāÀÛÀǪţā ǈÊŌÀ ȤŁȘ ·ȳāǼÁǪèɍā Ž ȯāÀ ɍȘ 1959
Ûğ Ā8ǦÔǪÊţā Ƙȡ :3 ǦȝȤŧƒ ÛǦŧǪĦōÀ ğÀ8ǦÔǪÊţā :2 ǦȝȤŧƒ ÛȯȤȒōÀ ğÀ8ǦÔǪÊţā
ğāÀÛÀǪŧŸ ǦÀŸǪǺţā ţāȤǷǰā ȧÀÀǨ Û(ǦȝÀÊā ȤŧǨ ɄǿǪā) ǦĦÀÊā ğÀĿŋÀā :4 ǦȝȤŧƒȘ
ȳāǼǺǪèā ÛȯɄÛǦā ȘǗ ȝÀÊā ȤŧÀā ÛȤŧŸō ŌǯŋǰāgǿāΣā ·ŌǯŋÛÀƮÀǼō ƁÀŁŢā Ùŧā ğāĿŧŋ
·(Wayne and Kubica, 1986)ɁÀǹǗ ǦȤĿǵ ǦȘÀŧĿõ ȮāÔǹȘ Ûğ āǪÀā ȯāǪǹā ÛƙèĿā
ǼõÀŋ ·ğÀǷāȤĿΣāȘ ȷÊǷȒō ǦȑÀư ȷȤȮǨ ȷǗ ŌŧǪǂā ȸŋ ɄǿǪā ğāÀÛÀǪţā ȸŧȒǪǨ
*ǦÀĦǦā gÀÛÀǪţā* Û*M.kansasii* *ǦèāÀǿȮā gÀÛÀǪţā* ÛȤŧÀā ǦĿÛ *ǦÀKÛā gÀÛÀǪţā*
*gÀÛÀǪţāȘ* *M.szulgai* *ǦāÀ8ŸÎā gÀÛÀǪţā* Û*M.xenopi* *ǦŧÛĿŌā gÀÛÀǪţā* Û*M.marinum*
*ǦĿDZāÀǉā gÀÛÀǪţā*Ș ÛȤŧÀā ǦĦÀè *M.fortuitum* *ǦȤāÀÔǪā gÀÛÀǪţāȘ* Û*M.simiae* *ǦèĀÊÀā*
·(*ǦȤāÀÔǪā gÀÛÀǪţā ǼõÀŋ* ȘǗ) *M.chelonae*

[illegible] (Wolinsky, 1979) [illegible]

[illegible] 100.000 [illegible] 4 – 1.7 [illegible] 100.000 [illegible] 1.2 – 0.5 [illegible] 100.000 [illegible] 0.53 – 0.17 [illegible] (Wolinksky, 1979) 1972 [illegible] 1960 [illegible] %5.7 [illegible] (Havlik *et al.*, 1990 – 1989 [illegible] %23.3 [illegible] 1988 – 1985 [illegible] 727 [illegible] 1992) [illegible] %87 [illegible] 11 [illegible] 8 [illegible] 6 [illegible] 1 [illegible] %50 [illegible] %3 [illegible]

.(Vakrus and Good, 1990) ÅÆɸøźÀÆöÅõş

*ĞΛKÛöā gÂÜÂǫţā* ÆõÀŋ ÒŁÂÎǩ ʔŸȝ gøåļę àÆΛɼā ôÀŋ ʔŸȝ ĞĿęÅǫèā Ğèāøå Ǩɸļõ ʔřÀţā ŏɼúŁ .[3] ĻŸŋ/ĞĿŸǹ 100 ȸŋ Ōęǚ CD4 + åāÆȞǩ ĻŦΛÆö ɹÀõ ȸΛØöā Ōəɼşǚ Ž ǛŌź

.(Havlik *et al.*, 1992) ɹäźöā ÒŌɸş ȯÅŦèǚş ʔþ ĻŦΛÆö ɹÅõ

ǨÔȞźş 1988 – 1983 ƙā Àŋ gÂǫÀöā ǨÛȡ ĞΛåÅȞǫèā Ğèāøå Žş (āÂÊΛźè) ǸΛøźΛä Ž 513 ȸŋ ĞĿŸèŸöā gÂÛÂǫţā åāÅÂǫèā Ź ÆŌź (HIV) ɃÀÎĞöā ĞȝÅÅţā äźȝ âşƘź ɄøĞĞŸè ʔřÀŋ ĞDzÊɸɟā ǕĦΛźəø ôÀţā ɹÅõ ĞöÅǵ 34 ȸŋ 23 Žş ÛĞřāş ôÀŋ ĻŦΛÆö ɹÅõ ĻŦΛŋ 34 ǕĞöÅǵ (Debrunner *et* gÂǯǫÀţā ʔşÆȞö gÆǵāş ĞöÅǵ õÅΛŁ ɹÅõş ğɼÅǵ 10 Ž ĞāÅÔŋ Ǩɸļõ gźǹÀöā .*al.*, 1992)

113 ğÂĿŋ ţøāÂţā ȻØŁ ȸŋş ÅŘΛÀŋ 4,894 ȸŋ Ğȝøâŋ 8,006 Ğèāøå Ź :ƙǫΛDZøɟā Ž (ʔřÀɃŸö ɄŸÒöā åÆȞöā ȸŋ %0.37) ĞöÅǵ 18 øō åźȞǩ ÛĞĿŸèɼ gÂÛÂǫŋ ÅŒǚ ʔŸȝ (%1.4) *ĞĿɸźƨā ĞΛKÛöā gÂÜÂǫţāş* Ûğɼāǵ Ʉøɸļǫ Ž *ĞĿèāÂøΛÒöā gÂÜÂǫţā* Ǩɸļõ gåÂÂǫÊţā ŌŋāźȞöā ĞƤÅɸ gÆǵāş ʔşÆȝş ÛgÆǵāş ĞöÅǵ Ž *ĞΛÂȞΛĞöā gÂÜÂǫţā* ÛʔÀǹǚ ğɼāǵ Ʉøɸļǫ Ž *ĞΛÂΛäÂΛƪā* ĞöÅǵ 16 Ž ÅΛźəø ȝřźǫöā ɹÅõ :ʔÀǹǚ ĞöÅǵ Ž *ĞĿèāÂøΛÒöāş ĞĿŸÊöā ƙΛÄÛÂǫţā* ÅǫŸõ ȸȝ .(Dilonardo *et al.*, 1983) ƙǫöÅǵ Ž ÅΛÆŸDZş

13544 ʔŸȝ ƙǫΛDZøɟā ȸŋ ĻĿöÅęǚ 6 Ž ğāƎǫƯ 15 ĞÛèāźā ǨΛÂDZǚ Ğèāøå ǨŸÔǵ ȸŋ %99.17 Ž ɄøĞĞÊöā ŌŋÅȞöā *ĞĿŸÊöā gÂÜÂǫţā* Ǩɸļõ :ÅŘΛÀŋ 7662 ȸŋ ğāÂÛÂǫɃŸö Ğȝøâŋ %0.35 Ž *ĞΛÂΛäÂΛƪā ĞĿɸźƨā ĞΛKÛöā gÂÜÂǫţā*ş %0.47 Ž *ĞΛÂŌĞöā gÂÜÂǫţā*ş ÛʔřÀţā ÂĿɸźŋ ʔÀÎŋ Žş 1991 ȯşɟā ɹźɸÅõş 1985 ɹāÂΛǵ ƙā .(Barrera Dekantor, 1987) Ž %6.2 ɄŸèŸöā ğāÂÛÂǫţā ŏāå øÅÎǫɸā ȯÆȞŋ ɹÅõ âÀΛǚ Èɸźāā Ž (ĞΛÆȞţā ôāÀŋǪō) HIV ɄĿĞŸè ʔřÀŋ Ž %0.5ş :àÆΛǫā ʔřÀŋ şǚ HIV ĞȝÅÅţā äźȝ âşƘź ɄāÅƶǚ ʔřÀŋ .(DiLanardo *et al.,* 1993)

ĞāÅòǫā ĻT ÒÂÎŋ ʔřÀŋ ȸŋ ğØǹǚ ğÅÆȝ ȸŋ Ğȝøâŋ 547 ğÂŘǥ :ŌĿÊÒţā Ž ÅŁÂÆÆǫ Ź ţøāÂţā ȻØŁ ȸŋ %89.6 Û(Bacterioscopy) ɄŋźǫÀƨā ƘŢΛǫöā ÿāÆÅǫèÅā ŌÊöÅā *ÛĞĿźåÎÔǫöā gÂÜÂǫţā* Ōǯŋ (ĞΛŋÅõ) ĞŸɃǫŢ Ğř Àư ĞĿŸèɼ ğāÂÛÂǫɃõ %8.9ş :ĞĿŸè gÂÛÂǫɃõ :*ĞĿèāÂøΛÒöā gÂÜÂǫţāş ÛĞΛÂΛäÂΛƪā gÂÜÂǫţā ÛĞĿDZāÂƪā gÂÜÂǫţā*

[illegible] .(Thoen *et al*., 1981)

[illegible]

[illegible] .(Wolinsky, 1979)

[illegible]

[illegible] .(Wolinsky, 1979) [illegible]

[illegible] 5 - [illegible] 18 [illegible]

[illegible] 100000 [illegible] 0.37 [illegible] 10000 [illegible] 0.04 [illegible]

[illegible] .(Grang and Yates) [illegible]

[illegible] .(wolinsky, 1979) [illegible]

[illegible]

[illegible] Photochromogen [illegible] °32 [illegible] .(Sanders *et al.*, 1990) [illegible] °37 [illegible]

[illegible] 290 [illegible] buruli [illegible] Bairnsdale [illegible]

[illegible]

[illegible]

[illegible] (McFadden *et al*., 1987; Thorel 1989; [illegible] Sandesron *et al*., 1992) [illegible]

[illegible] (Benenson, 1990) [illegible] (1993) [illegible] (Sanders *et al.*, 1990) [illegible]

[illegible] (Thoen *et al.*, 1980)

[illegible] 1977 – 1973 [illegible] (Theon *et al.*, 1979) [illegible] %14 [illegible] 2 [illegible] 1 [illegible] %50 [illegible] %2.7 [illegible] .*xenopi* [illegible]

[illegible] 62 [illegible] 28 [illegible] 18 [illegible] (Correa and Correa 1973) [illegible]

paraspecific sensitizction

.(Grange *et al.*, 1990)

8, 5, 4, 2, 1

.(Songe *et al.*, 1980)

(Tsukamura *et al.*, porcinum .1983)

.(Brown *et al.*, 1979)

1988 %73 1976 2.3 .(Dey *et al.*, 1993)

venter

(White *et al.*, 1983)

10

(Carpenter *et al.*, 1988)

emaciation

(Thoen *et al.*, 1981) epithelioid

44 (*Maccaca arctoides*)

54

.(Holmberg *et al.*, 1985)

([illegible]) koal [illegible] (*Phascolarctos cinereus*) [illegible] .(Mitchel *et al.*, 1981) [illegible]

[illegible] aquarium [illegible] exophtholmos [illegible] .(Leiboritz 1980, Martin 1981)

[illegible] (*plenrodem cinera and p. marmoratus*) [illegible] .(*Bubalus Bubalis*) [illegible] 67 [illegible] 41 [illegible] (%53) 22 [illegible] *intracellulare* [illegible] .(*chaetophractus villosus*) 206 [illegible] .(De kantor, 1978) (*Daspus hybridus*) [illegible]

[illegible] .(Resoagli *et al.*, 1982) [illegible]

[illegible] 3 [illegible] 2 [illegible] 1 [illegible] 1 [illegible] 2 [illegible] .(Theon *et al.*, 1981) [illegible] .(Grange *et al.*, 1990)

Pet

(Gruft *et al.*, 1981)

250 %25

[illegible] PPD-B [illegible] PDD-A [illegible]

[illegible] .(Kazda, 1983) [illegible]

[illegible] [11] [illegible] [4] [illegible] [18] [illegible] [3] [illegible] [16] [illegible]

.(Grange *et al.*, 1990 [illegible] du Moulin *et al.*, 1988)

[illegible]

[illegible] .(Wolinsky, 1979) [illegible] Wattle [illegible] (Thoen and [illegible] .Karlson, 1991)

[illegible] .(Thoen *et al.*, 1981) [illegible]

[illegible] .(Songer *et al.*, 1980) [illegible]

ƙĤæ ÀǫØǹǕ äæǕş ÛɄÊĿəø ŌȮÎæ ţøäÂţä ɁŸʒ ɃƘÛöä ŌÊöä ǦĦɀÀȮŋ ÂõÀÀ ɉǕ Ǣƶ öäşǼöä ɉǚɀ ÛǦöɀŸÊţä øɀĒÛöä ǫşÀæ ǦǫɀŸţä ǦÀĒǦöä Ž *ǦÀƘÛöä ğÀÛÀǪƭŸö* ğǼÀǼţä ÀÀÕǦöä øÀǦǪʒɼä Ž ǴĒĦȍ āÀÊæ ƙǜɀǪöä ğǻÀʒǕş Ǧʒø Âŋ Ž ğǻɀǄɀţä øɀĒÛöä Ōõ ȸŋ ȌŸǺǪöä ɀĿ ǼĒǵɀöä

·ÀÕæÀè øɀĒÛöÀæ ȸȮÊǩ Ɓ ǦÕÛÀŋ

ȸŋ ȌŸǺǪöä Ǣƶ ·ŌƭÊöä Ž ğäÀÛÀǪţä öäǻ ǦĦɀÀȮţ ǦŸǪÀɯ ğäöäÀǄɀq ǦǄɀÀǵ ōÀÀĿ şǕ ǫɀŸŋ ŌƧ ȯÀǹǻǕ ǼÀΘ Ǣƶ Ōöæ ƂǕ ǦɀÀȉǕ ·ɄəÀţä ɁøæÀţä ƘƬÛǩş ɁǼĤÀţä ŌƭÊöä

·ǦǫɀŸŋ ğÀǄɀǪÀŋ

ÛøɎɛƥøǄǁɛ


Barrera, L., I.N. De Kantor. Nontuberculous mycobacteria and *Mycobacterium bovis* as a cause of human disease in Argentina. *Trop Geogr Med* 39:222–227, 1987.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Blancarte, M., B. Campos, S. Serna Villanueva. Micobacterias atípicas en la República Mexicana. *Salud Publica Mex* 24:329–340, 1982.

Brown, J., M.A. Neuman. Lesions of swine lymph nodes as a diagnostic test to determine mycobacterial infection. *Appl Environ Microbiol* 37:740–743, 1979.

Brown, J., J.W. Tollison. Influence of pork consumption on human infection with *Mycobacterium avium-intracellulare*. *Appl Environ Microbiol* 38:1144–1146, 1979.

Carpenter, J.L., A.M. Myers, M.W. Conner, *et al.* Tuberculosis in five basset hounds. *J Am Vet Med Assoc* 192:1563–1568, 1988.

Correa, C.N., W.M. Correa. Micobacterias isoladas de bovinos e suinos em São Paulo, Brasil. *Arq Inst Biol* 40:205–208, 1973.

Debrunner, M., M. Salfinger, O. Brandli, A. von Graevenitz. Epidemiology and clinical significance of nontuberculous mycobacteria in patients negative for human immunodeficiency virus in Switzerland. *Clin Infect Dis* 15:330–345, 1992.

De Kantor, I.N. Isolation of mycobacteria from two species of armadillos: *Dasypus hybridus* ("mulita") and *Chaetophractus villosus* ("peludo"). *In:* Pan American Health Organization. *The Armadillo as an Experimental Model in Biomedical Research*. Washington, D.C.: PAHO; 1978. (Scientific Publication 366).

Dey, B.P., G.L. Parham. Incidence and economics of tuberculosis in swine slaughtered from 1976 to 1988. *J Am Vet Med Assoc* 203:516–519, 1993.

Di Lonardo, M., J. Benetucci, M. Beltrán, *et al.* La tuberculosis and la infección por VIH/SIDA en Argentina. Un resumen de información. *Respiración* 8:60–62, 1993.

Di Lonardo, M., N.C. Isola, M. Ambroggi, G. Fulladosa, I.N. De Kantor. Enfermedad producida por micobacterias no tuberculosas en Buenos Aires, Argentina. *Bol Oficina Sanit Panam* 95:134–141, 1983.

Du Moulin, et al., 1988. Cited in: Grange, J.M., M.D. Yates, E. Boughton. The avian tubercle bacillus and its relatives. *J Appl Bacteriol* 68:411–431, 1990.

Grange, J.M., M.D. Yates, E. Boughton. The avian tubercle bacillus and its relatives. *J Appl Bacteriol* 68:411–431, 1990.

Gruft, H., J.O. Falkinham III, B.C. Parker. Recent experience in the epidemiology of disease caused by atypical mycobacteria. *Rev Infect Dis* 3:990–996, 1981.

Guthertz, L.S., B. Damsker, E.J. Bottone, *et al. Mycobacterium avium* and *Mycobacterium intracellulare* infections in patients with and without AIDS. *J Infect Dis* 160:1037–1041, 1989.

Havlik, J.A., Jr., C.R. Horsburgh, Jr., B. Metchock, *et al.* Disseminated *Mycobacterium avium* complex infection: Clinical identification and epidemiologic trends. *J Infect Dis* 165:577–580, 1992.

Holmberg, C.A., R. Henrickson, R. Lenninger, *et al.* Immunologic abnormality in a group of *Macaca arctoides* with high mortality due to atypical mycobacterial and other disease processes. *Am J Vet Res* 46:1192–1196, 1985.

Inderlied, C.B., C.A. Kemper, L.E. Bermúdez. The *Mycobacterium avium* complex. *Clin Microbiol Rev* 6:266–310, 1993.

Kazda, J. The principles of the ecology of mycobacteria. *In*: Ratledge C., J.L. Stanford, eds. Vol 2: *The Biology of the Mycobacteria*. London: Academic Press; 1983.

Leibovitz, L. Fish tuberculosis (mycobacteriosis). *J Am Vet Med Assoc* 176:415, 1980.

Martin, A.A. Mycobacteriosis: A brief review of a fish-transmitted zoonosis. *In*: Fowler, M.F., ed. Wildlife Diseases of the Pacific Basin and Other Countries. 4th International Conference of the Wildlife Diseases Association, Sydney, Australia, 1981.

McFadden, J.J., P.D. Butcher, R. Chiodini, J. Hermon-Taylor. Crohn's disease-isolated mycobacteria are identical to *Mycobacterium paratuberculosis*, as determined by DNA probes that distinguish between mycobacterial species. *J Clin Microbiol* 25:796–801, 1987.

Mitchell, P., D. Johnson. The recovery of *Mycobacterium ulcerans* from koalas in east Gippsland. *In*: Fowler, M.F., ed. Wildlife Diseases of the Pacific Basin and Other Countries. 4th International Conference of the Wildlife Diseases Association, Sydney, Australia, 1981.

Resoagli, E., A. Martínez, J.P. Resoagli, S.G. de Millán, M.I.O. de Rott, M. Ramírez. Micobacteriosis natural en armadillos, similar a la lepra humana. *Gac Vet* 44:674–676, 1982.

Runyon, E.H. Anonymous mycobacteria in pulmonary disease. *Med Clin North Am* 43:273–290, 1959.

Sanders, W.E., Jr., E.A. Horowitz. Other *Mycobacterium* species. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Sanderson, J.D., M.T. Moss, M.L. Tizard, J. Hermon-Taylor. *Mycobacterium paratuberculosis* DNA in Crohn's disease tissue. *Gut* 33:890–896, 1992.

Schaefer, W.B. Incidence of the serotypes of *Mycobacterium avium* and atypical mycobacteria in human and animal diseases. *Am Rev Respir Dis* 97:18–23, 1968. Cited in: Wolinsky, E. Non tuberculous mycobacteria and associated diseases. *Am Rev Resp Dis* 119:107–159, 1979.

Songer, J.G., E.J. Bicknell, C.O. Thoen. Epidemiological investigation of swine tuberculosis in Arizona. *Can J Comp Med* 44:115–120, 1980.

Thoen, C.O., E.M. Himes, W.D. Richards, J.L. Jarnagin, R. Harrington, Jr. Bovine tuberculosis in the United States and Puerto Rico: A laboratory summary. *Am J Vet Res* 40:118–120, 1979.

Thoen, C.O., A.G. Karlson. Tuberculosis. *In*: Calnek, B.W., H.J. Barnes, C.W. Beard, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*. 9th ed. Ames: Iowa State University Press; 1991.

Thoen, C.O., A.G. Karlson, E.M. Himes. Mycobacterial infections in animals. *Rev Infect Dis* 3:960–972, 1981.

Thorel, M.F. Relationship between *Mycobacterium avium*, *M. paratuberculosis* and mycobacteria associated with Crohn's disease. *Ann Rech Vet* 20:417–429, 1989.

Thorel, M.F., M. Krichevsky, V.V. Levy-Frebault. Numerical taxonomy of mycobactin-dependent mycobacteria, emended description of *Mycobacterium avium*, and description of *Mycobacterium avium* subsp. *avium* subsp. nov., *Mycobacterium avium* subsp. *paratubercu-*

losis subsp. nov., and *Mycobacterium avium* subsp. *silvaticum* subsp. nov. *Int J Syst Bacteriol* 40:254–260, 1990.
Tsukamura, M., H. Nemoto, H. Yugi. *Mycobacterium porcinum* sp. nov. A porcine pathogen. *Int J Syst Bacteriol* 33:162–165, 1983.
Wayne, L.G., G.P. Kubica. Family Mycobacteriaceae. *In*: Sneath, P.A., M.S. Mair, M.E. Sharpe. Vol 2: *Bergey's Manual of Systemic Bacteriology*. Baltimore: Williams & Wilkins; 1986.
White, S.D., P.J. Ihrke, A.A. Stannard, C. Cadmus, C. Griffin, S.A. Kruth, *et al.* Cutaneous atypical mycobacteriosis in cats. *J Am Vet Med Assoc* 182:1218–1222, 1983.
Wolinsky, E. Nontuberculous mycobacteria and associated diseases. *Am Rev Resp Dis* 119:107–159, 1979.
Yakrus, M.A., R.C. Good. Geographic distribution, frequency, and specimen source of *Mycobacterium avium* complex serotypes isolated from patients with acquired immunodeficiency syndrome. *J Clin Microbiol* 28:926–929, 1990.

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## [illegible] O1 [illegible]

## DISEASES IN MAN AND ANIMALS CAUSED BY NON-O1 *VIBRO CHOLERAE*

**[illegible] O1 [illegible] ICD 10 A00.0**

**ICD 10 A00.0 cholera due to *Vibrio cholerae* O1, biovar cholere**

[illegible] *vibro cholerae* [illegible] 0.4 [illegible] 1.5 [illegible] 01 [illegible] O1 [illegible]

[illegible] O [illegible] O1 [illegible] O1 [illegible] O1 [illegible] 1993 [illegible] (NAGs) nonagglutinable [illegible] O1 [illegible] .(WHO, 1993) O139 [illegible]

1992 … O139 … (Das *et al.*, 1993) O139 … (Nair and Takeda, 1993) … (Das *et al.*, 1993) …

… O1 … El Tor … 1958 … ogawa … polyvalent … O1 … O1 … O1 … (Inhab … (Benenson, 1991) …

Serovars … O1 … (Smith, 1977) … 70 …

… O1 … O139 …

… O1 …

[illegible] (O1 [illegible] 1968 [illegible] (Kamal, 1971) [illegible] 31 [illegible] 544 [illegible] 56 [illegible] 100 [illegible] 56 [illegible] 42 [illegible] vehicle [illegible] (Aldova *et al.*, 1968) (Dakin *et* [illegible] asparagus [illegible] *al.*, 1974)

[illegible] O139 [illegible] O1 [illegible] (WHO, 1993) [illegible] %5 [illegible]

[illegible] O1 [illegible] 500 [illegible] %14 [illegible] (Sack, 1993) (Raven [illegible] 195 [illegible] 8 [illegible] 54 [illegible] 01 [illegible] O1 [illegible] 46 [illegible] 01 [illegible] (Sangal *et al.*, 1974) [illegible]

(Morris, 90) %93 %25 %100 14 8 %21 %71 (Morris, 1990) (Girouard *et al.*, 1992) (Morris *et al.*, 1990) 5.397 40 %7 (%20.8) (%11.9) (%5)

(Morris, 1990) Sepsis (Sologa *et al.*, 1991) 0139 0139 0139

[illegible]

[illegible] O1 [illegible] O139 [illegible]

[illegible] 7 [illegible] 3 [illegible] (*Bison Bison* [illegible]) [illegible] 100 [illegible] alromasum [illegible] O1 [illegible] .(Rhodes *et al.*, 1985) [illegible] 17) [illegible] (1986) [illegible] .O1 [illegible] 16 [illegible] 800 [illegible] %20 [illegible] .%50 [illegible] .(Fain Binda *et al.*, 1986) [illegible] O1 [illegible]

[illegible] O1 [illegible]

(Corrales *et al*., 1989)

.(Morris, 1990)

.(Zafari *et al*., 1973)

790 %14

.01

(Twedt *et al*., 1981)

vehicle

%16 .(Kamal, 1971) 1968

.(Taylor *et al*., 1988) 01

01

(adherence

Thermostable

01

44 9 01 237 %2

[illegible] Homologous [illegible]
.(Morris, 1990) [illegible]

[illegible] (Sack 1973, Sanyl *et al.*, 1974) [illegible]

[illegible]
.(Corrales *et al.*, 1989) [illegible]

O139 [illegible]
.(WHO, 1993)

[illegible] O139 [illegible]
.(O1 [illegible])

[illegible]


Aldová, E., K. Laznickova, E. Stepankova, J. Lietava. Isolation of nonagglutinable vibrios from an enteritis outbreak in Czechoslovakia. *J Infect Dis* 118:25–31, 1968. Cited in: Morris, J.G., Jr. Non-O group 1 *Vibrio cholerae*: A look at the epidemiology of an occasional pathogen. *Epidemiol Rev* 12:179–191, 1990.

Benenson, A.S. Cholera. *In*: Evans, A.S., P.S. Brachman, eds. *Bacterial Infections of Humans*. 2nd ed. New York: Plenum Medical Book Co.; 1991.

Corrales, M.T., G.B. Fronchkowsky, T. Eiguer. Aislamiento en Argentina de *Vibrio cholerae* no O1 en liquidos cloacales. *Rev Argent Microbiol* 21:71–77, 1989.

Dakin, W.P., D.J. Howell, R.G. Sutton, *et al.* Gastroenteritis due to non-agglutinable (non-cholera) vibrios. *Med J Aust* 2:487–490, 1974. Cited in: Morris, J.G., Jr. Non-O group 1 *Vibrio cholerae*: A look at the epidemiology of an occasional pathogen. *Epidemiol Rev* 12:179–191, 1990.

Das, B., R.K. Ghosh, C. Sharma, *et al.* Tandem repeats of cholera toxin gene in *Vibrio cholerae* O139. *Lancet* 342(8880):1173–1174, 1993.

Fain Binda, J.C., E.R. Comba, H. Sánchez, *et al.* Primer aislamiento de *Vibrio cholerae* no O1 en la Argentina de una enteritis bovina. *Rev Med Vet* 67:203–207, 1986.

Girouard, Y., C. Gaudreau, G. Frechette, M. Lorange-Rodriques. Non-O1 *Vibrio cholerae* enterocolitis in Quebec tourists returning from the Dominican Republic. *Can Commun Dis Rep* 18:105–107, 1992.

Kamal, A.M. Outbreak of gastroenteritis by nonagglutinable (NAG) vibrios in the Republic of the Sudan. *J Egypt Public Health Assoc* 46:125–173, 1971. Cited in: Benenson, A.S. Cholera. *In*: Evans, A.S., P.S. Brachman, eds. *Bacterial Infections of Humans*. 2nd ed. New York: Plenum Medical Book Co.; 1991.

Kaper, J., H. Lockman, R.R. Colwell, S.W. Joseph. Ecology, serology, and enterotoxin production of *Vibrio cholerae* in Chesapeake Bay. *Appl Environ Microbiol* 37:91–103, 1979.

Morris, J.G., Jr. Non-O group 1 *Vibrio cholerae*: A look at the epidemiology of an occasional pathogen. *Epidemiol Rev* 12:179–191, 1990.

Morris, J.G., Jr., T. Takeda, B.D. Tall, *et al.* Experimental non-O group 1 *Vibrio cholerae* gastroenteritis in humans. *J Clin Invest* 85:697–705, 1990.

Nair, G.B., Y. Takeda. *Vibrio cholerae* in disguise: A disturbing entity. *Wld J Microbiol Biotech* 9:399–400, 1993.

Rhodes, J.B., D. Schweitzer, J.E. Ogg. Isolation of non-O1 *Vibrio cholerae* associated with enteric disease of herbivores in western Colorado. *J Clin Microbiol* 22:572–575, 1985.

Rhodes, J.B., H.L. Smith, Jr., J.E. Ogg. Isolation of non-O1 *Vibrio cholerae* serovars from surface waters in western Colorado. *Appl Environ Microbiol* 51:1216–1219, 1986.

Sack, R.B. A search for canine carriers of *Vibrio*. *J Infect Dis* 127:709–712, 1973.

Sanyal, S.C., S.J. Singh, I.C. Tiwari, *et al.* Role of household animals in maintenance of cholera infection in a community. *J Infect Dis* 130:575–579, 1974.

Smith, H.L. Serotyping of non-cholera vibrios. *J Clin Microbiol* 30:279–282, 1977.

Soloaga, R., G. Martínez, A. Cattani, *et al.* Peritonitis bacteriana espontánea y sepsis por *Vibrio cholerae* no O1. *Infect Microbiol Clin* 3:58–62, 1991.

Taylor, D.N., P. Echeverria, C. Pitarangsi, *et al.* Application of DNA hybridization techniques in the assessment of diarrheal disease among refugees in Thailand. *Am J Epidemiol* 127:179–187, 1988. Cited in: Morris, J.G., Jr. Non-O group 1 *Vibrio cholerae*: A look at the epidemiology of an occasional pathogen. *Epidemiol Rev* 12:179–191, 1990.

Twedt, R.M., J.M. Madden, J.M. Hunt, *et al.* Characterization of *Vibrio cholerae* isolated from oysters. *Appl Environ Microbiol* 41:1475–1478, 1981.

World Health Organization (WHO). Epidemic diarrhoea due to *Vibrio cholerae* non-O1. *Wkly Epidemiol Rec* 68(20):141–142, 1993.

Zafari, Y., S. Rahmanzadeh, A.Z. Zarifi, N. Fakhar. Diarrhoea caused by non-agglutinable *Vibrio cholerae* (non-cholera Vibrio). *Lancet* 2:429–430, 1973. Cited in: Morris, J.G., Jr. Non-O group 1 *Vibrio cholerae*: A look at the epidemiology of an occasional pathogen. *Epidemiol Rev* 12:179–191, 1990.

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## ENTEROCOLITIC ǅŽǋǁǋǈǁĒǋ ĂyĎŽǂǁ ƅĜǋǂĎŽǁȄ l ƑǐǖƨƥǐǁȄ ƀȄǭ YERSINIOSIS

***ǅŽǋǁǋǈǁĒǋ ĂyĎŽǂǁ ƅĜǋǂĎŽǁȄ ƅǐǖƨƥǐǁȄ*** ǅŽY !ǕƑǖǁȄ ƀƑyĎŽǓȄ ***ƒƑǋǂǁȄ*** **ICD 10 A04.6**
**ICD 10 A04.6 enteritis due to *Yersinia enterocolitica***

ŷǟÀ8ǟǟ ĜĘĜŸè Coccobacillus ĝǿƺÔȝ *ȷƺǐƺǑǟş ƻĤŧǏǐ ĜĜŢŸţǟ ĜĤèĸǟ* ˙ğ ÅĘĜĜÊǟǟ

[illegible] .*Enterobacteriaceae* [illegible] °25 [illegible] 7 [illegible]
*Y.aldovae Y.bercovieri, Y.frederiksenii, Y.intermedia, Y.mollaretii,* [illegible]
[illegible] *Y.kristensenii, Y.rohdei*
[illegible] .(Farmer & Kelly 1991) [illegible] O [illegible] 50 [illegible] 4 [illegible] O: 3 [illegible] Ribotyping [illegible] II [illegible] I [illegible] O: 3 [illegible] .Clones [illegible] I [illegible]
.(Blumberg *et al*., 1991) [illegible] IV [illegible] II

[illegible] 50 – 40 [illegible] °37 [illegible] W [illegible] V [illegible] .(Riley & Toma 1989) Aesculin [illegible] 4 [illegible] Cohort [illegible] %6 [illegible] O: 3 [illegible]
.(Morris *et al*., 1991)

(Swaminathan *et al.*, 1982)

(Carniel & Mollaret, 1990)

(Trimnell & Adesiyn, 1988)

(Bissett *et al.*, 1990)

(Lee *et al.*, 1991)

(de Groote *et al.*, 1982)

[illegible] (Mata & Simhon 1982). [illegible] 1972 [illegible] 544 [illegible] 198 [illegible] 189 [illegible] 128 [illegible] 1976 [illegible] 1982 [illegible] 13 [illegible] 172 [illegible] 18 [illegible] 94 [illegible] 1973 [illegible] (Tacket *et al.*, 1984) [illegible] (Lingholm & Viaskorpi, 1991) [illegible] 1989 – 1984 [illegible] 51 [illegible] 12 - 6 [illegible] 19 - 16 [illegible] %62 [illegible] (Franco – Vicario *et al.*, 1991) [illegible] (Cover & Aber, 1989) [illegible] 1990 [illegible] 1989 [illegible] 38 [illegible] 3 [illegible] 20 [illegible] 4841 [illegible] (%0.78) [illegible] 38 [illegible]

(%1.24) [illegible] (%1.01) [illegible] 80 [illegible] .(Lee *et al.*, 91) (%2.02) [illegible] .(Constantinu *et al.*, 1992)

[illegible] 5 [illegible] 12 [illegible]

[illegible] 3 [illegible] 9 [illegible] .(Hurvell, 1982) [illegible] 5 [illegible] %62.5 [illegible] %5 [illegible] %3 [illegible] .(de Groote *et al.*, 1982) [illegible]

[illegible] %5 [illegible] 14 – 3 [illegible] 2 - 1 [illegible] 4 [illegible] %80 [illegible] 100 [illegible]

[illegible] 1700 [illegible] %86 [illegible] %1 [illegible] %10 [illegible] .(Swaminathan *et al.*, 1982) [illegible]

[illegible] 1982 [illegible] 172 [illegible] %14 [illegible] %86 [illegible] (%22.2) [illegible] (%41.4) [illegible] (%82.7) [illegible] (%86.3) [illegible] (%92.7) [illegible] .(%15.1) [illegible] (%19.7) [illegible] (%22.2) [illegible] .(Tacket *et al.*, 1984) [illegible] 3 [illegible] %34 [illegible] .(Marasco *et al.*, 1993) (%50 [illegible] 23 [illegible] 35 [illegible]

[illegible] 1983 – 1974 [illegible] 458 [illegible] 200 [illegible] 184 [illegible] 10 [illegible] 36 [illegible] 45 [illegible] 14 [illegible] 4 [illegible] 56 [illegible] 43 [illegible] iletio [illegible] 28 [illegible] 38 [illegible] 22 [illegible] 16 [illegible] .(Saebo & Lessen 1992 a + b)

[illegible]

[illegible] .(Benenson, 1992) [illegible]

[illegible]

.(Lee *et al.*, 1991) [illegible]

[illegible]

[illegible]

Chinchilla [illegible]

[illegible]

[illegible]

[illegible]

[illegible] (3 [illegible]) 1 [illegible]

[illegible]

[illegible]) 2 [illegible] hares [illegible]

[illegible] .(5 [illegible]

[illegible]

[illegible]

[illegible] %26 [illegible] %0.3 [illegible]

[illegible]

.(Zanora *et al.*, 79) [illegible] 305 [illegible] %4 [illegible]

[illegible]

(*Urocyon* [illegible] 0: 8 [illegible]

(*Erethizon* ([illegible]) porcupine [illegible] *cinereargenteus*)

[illegible] 0: 3 [illegible] .*dorsatum*)

.(Shayegani *et al.*, 1986) [illegible]

[illegible] %5.7 [illegible] %17 [illegible] .(Hurvell, 1981) [illegible] .(Tayler, 1992) [illegible] %100 [illegible] .(Fukushima *et al.*, 1983)

[illegible] 14 [illegible] (3 [illegible] 2 [illegible]) [illegible] .(Philbey *et al.*, 1991) [illegible] 7 [illegible] 30 [illegible] 6 [illegible] O: 6.30 [illegible] .(Corbel *et al.*, 1990) [illegible] 90 [illegible] .(Corbel *et al.*, 1992) [illegible]

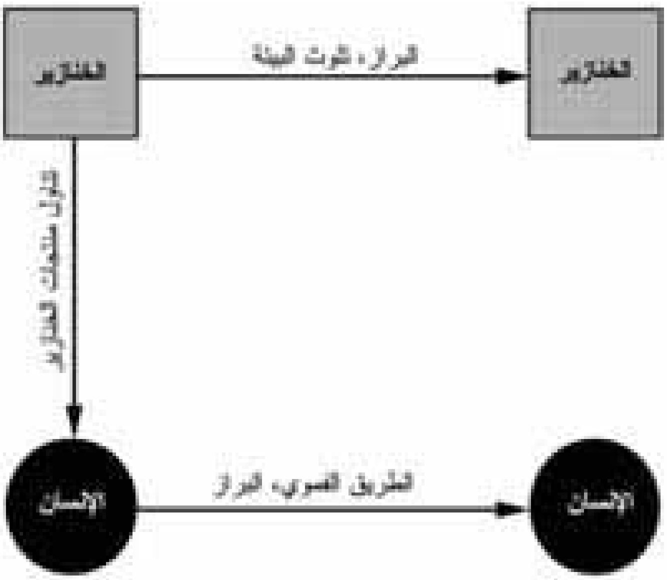
[illegible]

[illegible] 9 [illegible] 0: 9 [illegible]
[illegible]
.(Das *et al.*, 86) [illegible]
(Kaneko *et al.*, [illegible] 451 [illegible] %5.5 [illegible]
[illegible] (Pederson & Winblad 1979) [illegible] 115 [illegible] %1.7 [illegible] 1977)
[illegible]
[illegible] .(Papageoges & Gosselin, 1983)
[illegible] 0: 9 [illegible] 0: 8 [illegible]
[illegible]
[illegible] (Erythrocebus patas) Patas [illegible]
[illegible] 20 [illegible]
.(Skavlen *et al.*, 1985) [illegible] 5

[illegible] (10 [illegible]
[illegible]

ȸȵ ȷÀÊφRö Ĝȑ Àȶţä ĞÆŸÔţä ȓÀɣǰä åÀÀȹÊǩ Àȵ ÆøáÀφ ÛʔȶŢȞöä ÀÆφÀÛÀÀæ ȘÛ ğÆȞȸţä ğÀÀɍȥöä
•(Wooley *et al.*, 1980 , Brewer & Corbel, 1983) ÀÀäÀÀʅä

ȯÀÕȹφŸö ôÀȹÀţä äÀÛöä – (ȷȥǒȥÕöäȘ ʔȞȶŸö ĞĠȚŸţä ĞÆÀèƘöä) Ɔȥǒȥ Õöä ɃȥȞţä ğÀÆÀèƘöä öäá :10 ÕÒÎöä




ÕȶȹǂäŢåȥȹÊţä ȷÛ ÛğȥÕæȘ ÛÀÆÕÀÀȥÛ āȥÀDZȘ äÆÀõȘ ÀÆȥÀφÆÀÒèä Ž ɃÀDZÛ ǬШ ȡȥÀȹÕÀ
Û8ɄŸÔţä ÙȶÀöä åÀÀƗèä •8 ȘÀȞȵ Ƙȡ ţåȥȹÊţä ȯöä Àȵ :ʔÀǹÛ ȷäÆŸæ Ž •ÀÀäÀÀʅä ȥȽ ÕȵÀȞŸö
ĞÀɍȘ Ž ĞÆÌÀȥ ÆȞæ ôäÀȝÛ ȷȘá ÀÔÀÌ 95 ȸȵ 2 ȸȵ ÛğÆȞȸţä ğÀÀɍȥöä Ž ÀÛÆÊÀ ɃØöäȘ
ɄŸÔţä ÙȶÀöä åÀÀƗèä •ȼÊÀφ ɄŸÔţä ÙȶÀöä ȸȵ ǨȶŌȘ •ȼǩɍȥõȥÎöÀæ ÆÆŸǵ ĞDZȥÆȹφ ȭøȥÀȥÆφ
(Aldova *et* ĞÀÀÎæ ğɍÀǵ ÆȽÀÎǩ Ɓ ȸÒö •ĞÕæÀÊöä ÀÆõÀȥȥŸèȥÒÆÎǩ Ž ĞȶȞüǰäȘ öÀţä ȸȵ 8
ƂÛ ȷÀÊφ ȸȵ ȯÀÕȹφä ǪȘÆǵ ȯÀȶȹǵä ƂÛ ĞÀȥÀÎȹÊţä ğÀÆÌÀÀöä ȐȞæ ƘÎǩ •*al.*, 1981)
ʅÆÆÕȹö 1990Ș 1987 Ƙæ ğÆȞȸţä ğÀÀɍȥöä Ž ʔȞȵÀDZ ʔÀÎȵ Ž ĞèäøáǨÀÀDZÛ •ȷÀÊφÛ
- ĞÆÀèƘöä ʅȚÀȵ ğåÀÀȹèä ÀȐÀÀȵ 15 ÕòÛ ȸȵ ʔȑÀȵ 8 ÆÊȹõä •ʔȘÆȞŸö ɃȥÀÎţä ȯÀÕȹφɍä
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ôÀȞȹöä ƂÛ ĞÆŸǝÀȞöä ğÀÆÌÀÀöä ȐȞæ ǨÀÀȝ •(Cannon and Linnemann, 1992) ğɍÀǵ
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0: 3

2000

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360 0: 3 1458

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0: 8 0: 5.27 0: 3 (Andersen, 1988)

146

%10 %19 0: 3

120 31 Controls

(Merilahti - Palo *et al*., 1991) 0:3

117 %9.9 316 (%11.1) 25

803 0: 3 G

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(Nesbakken *et al*., 1991)

1981 1976

1000 239

(0: 13b, 0: 13 a)

%75 ... 0: 3 ...

.(Thompson and Gravel, 1986)

(Schiomonn, ... .1989)

10 ... 1991 ... 1987 ... 50 ... 37 ... 12 ... 6 ... 4 ... 10 ... 0: 3 ... 4) O: 5.27 ... .(CDC, 91) ... O: 20 ... 30 ... 4 ... 4 ... 1988 ... 6 ... 27 ... .(Prentice 1992, Jones *et al.*, 1993) ... 17 ...

.(Richards *et al.*, 1992) autologous ...

1982 ...

[illegible]

[illegible] (CIN) [illegible] 80/1 [illegible] 40/1 [illegible]

[illegible] (Schiemenn, 1989) [illegible]

[illegible] .(Mittal *et al.*, 1984) [illegible]

[illegible] O: 3 [illegible] .(Paerregaad *et al.,* 1991)

[illegible] 500 [illegible] .(PCR) [illegible] .(Feng *et al.*, 1992) [illegible] 100

[illegible]

[illegible]

[illegible] 25 [illegible] (CFU) [illegible]

Aldova, E., J. Sobotková, A. Brezinova, J. Cerna, M. Janeckova, J. Pegrinkova, *et al.* *Yersinia enterocolitica* in water and foods. *Zbl Bakt Mikrobiol Hyg [B]* 173:464–470, 1981.

Andersen, J.K. Contamination of freshly slaughtered pig carcasses with human pathogenic *Yersinia enterocolitica*. *Int J Food Microbiol* 7:193–202, 1988.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bissett, M.L., C. Powers, S.L. Abbott, J.M. Janda. Epidemiologic investigations of *Yersinia enterocolitica* and related species: Sources, frequency and serogroup distribution. *J Clin Microbiol* 28:910–912, 1990.

Blumberg, H.M., J.A. Kiehlbauch, I.K. Wachsmuth. Molecular epidemiology of *Yersinia enterocolitica* O:3 infections: Use of chromosomal DNA restriction fragment length polymorphisms of rRNA genes. *J Clin Microbiol* 29:2368–2374, 1991.

Brewer, R.A., M.J. Corbel. Characterization of *Yersinia enterocolitica* strains isolated from cattle, sheep and pigs in the United Kingdom. *J Hyg* 90:425–433, 1983.

Cannon, C.G., C.C. Linnemann. *Yersinia enterocolitica* infections in hospitalized patients: The problem of hospital-acquired infections. *Infect Control Hosp Epidemiol* 13:139–143, 1992.

Carniel, E., H.H Mollaret. Yersiniosis. *Comp Immunol Microbiol Infect Dis* 13(2):51–58, 1990.

Constantiniu, S., C. Naciu, A. Romaniuc, *et al.* Serological diagnosis in human *Yersinia* infections. *Roum Arch Microbiol Immunol* 51:225–232, 1992.

Corbel, M.J., R.A. Brewer, D. Hunter. Characterisation of *Yersinia enterocolitica* strains associated with ovine abortion. *Vet Rec* 127:526–527, 1990.

Corbel, M.J., B. Ellis, C. Richardson, R. Bradley. Experimental *Yersinia enterocolitica* placentitis in sheep. *Brit Vet J* 148:339–349, 1992.

Cover, T.L., R.C. Aber. *Yersinia enterocolitica*. *N Engl J Med* 321:16–24, 1989.

Das, A.M., V.L. Paranjape, S. Winblad. *Yersinia enterocolitica* associated with third trimester abortion in buffaloes. *Trop Anim Health Prod* 18:109–112, 1986.

de Groote, G., J. Vandepitte, G. Wauters. Surveillance of human *Yersinia enterocolitica* infections in Belgium: 1963–1978. *J Infect* 4:189–197, 1982.

Farmer, J.J., III., M.T. Kelly. Enterobacteriaceae. *In*: Ballows, A., W.J. Hausler, Jr., K.L. Hermann, H.D. Isenberg, H.J. Shadomy. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Feng, P., S.P. Keasler, W.E. Hill. Direct identification of *Yersinia enterocolitica* in blood by polymerase chain reaction amplification. *Transfusion* 32:850–854, 1992.

Franco-Vicario, R., P. Echevarria Villegas, P. Martínez-Olaizola, *et al.* Yersiniosis en un hospital general del País Vasco (1984–1989). Aspectos clínicos and epidemiológicos. *Med Clin* 97:241–244, 1991.

Fukushima, H., R. Nakamura, Y. Ito, K. Saito, M. Tsubokura, K. Otsuki. Ecological studies of *Yersinia enterocolitica*. I. Dissemination of *Y. enterocolitica* in pigs. *Vet Microbiol* 8:469–483, 1983.

Hurvell, B. Zoonotic *Yersinia enterocolitica* infection: Host-range, clinical manifestations, and transmission between animals and man. *In*: Bottone, E.J., ed. *Yersinia enterocolitica*. Boca Raton: CRC Press; 1981.

Jones, B.L., M.H. Saw, M.F. Hanson, *et al. Yersinia enterocolitica* septicaemia from transfusion of red cell concentrate stored for 16 days. *J Clin Pathol* 46:477–478, 1993.

Kaneko, K., S. Hamada, E. Kato. Ocurrence of *Yersinia enterocolitica* in dogs. *Jpn J Vet Sci* 39:407–414, 1977.

Lee, L.A., J. Taylor, G.P. Carter, *et al. Yersinia enterocolitica* O:3: An emerging cause of pediatric gastroenteritis in the United States. The *Yersinia enterocolitica* Collaborative Study Group. *J Infect Dis* 163:660–663, 1991.

Lindholm, H., R. Visakorpi. Late complications after a *Yersinia enterocolitica* epidemic: A follow up study. *Ann Rheum Dis* 50:694–696, 1991.

Marasco, W.J., E.K. Fishman, J.E. Kuhlman, R.H. Hruban. Splenic abscess as a complication of septic yersinia: CT evaluation. *Clin Imaging* 17:33–35, 1993.

Mata, L., A. Simhon. Enteritis y colitis infecciosas del hombre. *Adel Microbiol Enf Infec* (Buenos Aires) 1:1–50, 1982.

Merilahti-Palo, R., R. Lahesmaa, K. Granfors, *et al.* Risk of *Yersinia* infection among butchers. *Scand J Infect Dis* 23:55–61, 1991.

Mittal, K.R., I.R. Tizard, D.A. Barnum. Serological cross-reactions between *Brucella abortus* and *Yersinia enterocolitica* 09. International Symposium on Human and Animal Brucellosis. Taipei, Taiwan, 1984.

Morris, J.G., V. Prado, C. Ferreccio, *et al. Yersinia enterocolitica* isolated from two cohorts of young children in Santiago, Chile: Incidence of and lack of correlation between illness and proposed virulence factors. *J Clin Microbiol* 29:2784–2788, 1991.

Nesbakken, T., G. Kapperud, J. Lassen, E. Skjerve. *Yersinia enterocolitica* O:3 antibodies in slaughterhouse employees, veterinarians, and military recruits. Occupational exposure to pigs as a risk factor for yersiniosis. *Contr Microbiol Immunol* 12:32–39, 1991.

Paerregaard, A., G.H. Shand, K. Gaarslev, F. Espersen. Comparison of crossed immunoelectrophoresis, enzyme-linked immunosorbent assays, and tube agglutination for serodiagnosis of *Yersinia enterocolitica* serotype O:3 infection. *J Clin Microbiol* 29:302–309, 1991.

Papageorges, M., R. Higgins, Y. Gosselin. *Yersinia enterocolitica* enteritis in two dogs. *J Am Vet Med Assoc* 182:618–619, 1983.

Pedersen, K.B., S. Winblad. Studies on *Yersinia enterocolitica* isolated from swine and dogs. *Acta Path Microbiol Scand [B]* 87B:137–140, 1979.

Philbey, A.W., J.R. Glastonbury, I.J. Links, L.M. Mathews. *Yersinia* species isolated from sheep with enterocolitis. *Aust Vet J* 68:108–110, 1991.

Prentice, M. Transfusing *Yersinia enterocolitica*. *Brit Med J* 305:663–664, 1992.

Richards, C., J. Kolins, C.D. Trindade. Autologous transfusion-transmitted *Yersinia enterocolitica* [letter]. *JAMA* 268:154, 1992.

Riley, G., S. Toma. Detection of pathogenic *Yersinia enterocolitica* by using Congo red-magnesium oxalate agar medium. *J Clin Microbiol* 27:213–214, 1989.

Saebo, A., J. Lassen. Acute and chronic liver disease associated with *Yersinia enterocolitica* infection: A Norwegian 10-year follow-up study of 458 hospitalized patients. *J Intern Med* 231:531–535, 1992a.

Saebo, A., J. Lassen. Acute and chronic pancreatic disease associated with *Yersinia enterocolitica* infection: A Norwegian 10-year follow-up study of 458 hospitalized patients. *J Intern Med* 231:537–541, 1992b.

Schiemann, D.A. *Yersinia enterocolitica* and *Yersinia pseudotuberculosis*. *In*: Doyle, M.P., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Shayegani, M., W.B. Stone, I. DeForge, *et al. Yersinia enterocolitica* and related species isolated from wildlife in New York State. *Appl Environ Microbiol* 52:420–424, 1986.

Skavlen, P.A., H.F. Stills, E.K. Steffan, C.C. Middleton. Naturally ocurring *Yersinia enterocolitica* septicemia in patas monkeys (*Erythrocebus patas*). *Lab Anim Sci* 35:488–490, 1985.

Swaminathan, B., M.C. Harmon, I.J. Mehlman. *Yersinia enterocolitica*. *J Appl Bacteriol* 52:151–183, 1982.

Tacket, C.O., J.P. Narain, R. Sattin, J.P. Lofgren, C. Konigsberg, R.C. Rendtorff, *et al.* A multistate outbreak of infections caused by *Yersinia enterocolitica* transmitted by pasteurized milk. *J Am Med Assoc* 251:483–486, 1984.

Taylor, D.J. Infection with *Yersinia*. *In:* Leman, A.D., B.E. Straw, W.L. Mengeling, S. D'Allaire, D.J. Taylor, eds. *Diseases of Swine*. 7th ed. Ames: Iowa State University Press; 1992.

Thompson, J.S., M.J. Gravel. Family outbreak of gastroenteritis due to *Yersinia enterocolitica* serotype O:3 from well water. *Can J Microbiol* 32:700–701, 1986.

Trimnell, A.R., A.A. Adesiyun. Characteristics of the first isolate of *Yersinia enterocolitica* serogroup O:8 from a dog in Nigeria. *Isr J Vet Med* 44:244–247, 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Update: *Yersinia enterocolitica* bacteremia and endotoxin shock associated with red blood cell transfusions—United States, 1991. *MMWR Morb Mortal Wkly Rep* 40(11):176–178, 1991.

WHO Scientific Working Group. Enteric infections due to *Campylobacter*, *Yersinia*, *Salmonella*, and *Shigella*. *Bull World Health Organ* 58:519–537, 1980.

Wooley, R.E., E.B. Shotts, J.W. McConnell. Isolation of *Yersinia enterocolitica* from selected animal species. *Am J Vet Res* 41:1667–1668, 1980.

Zamora, J., O. Alonso, E. Chahuán. Isolement et caracterisation de *Yersinia enterocolitica* chez les rongeurs sauvages du Chili. *Zentralbl Veterinarmed [B]* 26:392–396, 1979.

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## *ƴƥĭɤƴƝ ƕĭƘƯĎǞ* ĎžY !ШFďƖ Ĭ øďǊǉǈ ăNjyĎǈ ƒFNJĦǕ

## ENTEROCLITIS DUE TO *CLOSTRIDIUM DIFFICLIE*

### ICD10A04.7

ƟəÀÎ8öä ƟøɕözÖöä ɃƺȞƫä āÀȚǬöɟä ÛǦÀɀƩΣä ğäåÀȒɫŸö ĘɀäÀƫä ȯÀȚèqä ˙ğÀɀåäÀƫä ·ÀǹÀÀöä ŽÂøÀöä ƟøɕözÖöä ɃƺȞƫä āÀȚǬöɟä Û ā æÀȮöä

ÀTɀù ɏäÀ8öä ǦȽäÀƶǕ ǦȽəäɀȽ ɟ ǦȽÔȝ Û*Clostridium dufficile* *ɡƘÊȞöä ǦȜǗƫä* ˙ğÀȽǦǦÊöä .subterminal ǦÀÀȚÀöä ā Àȩ ǦÀɀȒȽæ Àɗäɀæ ŌȮÎǩ ÛÀɕȿÀȮɳ 1.9 – 0.5 ÀȽÀÛȩȿ Àɕȿ ÀȮɳ 16 - 3 .Broth ȧÀƫä ƫøäÀɳ Ž ɡåÀȝ ǦõÀȞǬɳ *ǦȜǗƫä* ·ÀÀŸǹ 6 - 2 ȡɳ ǦŸÊŸè ɃøäøǾöä ȒȞæ ǰǬÀǩ ɉÀÀÀǾöä ÜB ɃɀŸȴä ɉÀÀÀǾöäȿ A ɃƺȞƫä ɉÀÀÀǾöä ˙ğÀɕÀÀÀǾöä ȡɳ ƙÛy*ɡƘÊȞöä ǦȜǗƫä* ǰǬÀǩ ȡɳ ǦȝȿøÀƫä ÀÀŸÅŸö ɏÀè B ɉÀÀÀǾöä ·ȴÀöä ĘÀÀù ȡȝ ɁÛȞÀ ÀɳÆÀȝ Hamster åäÆŌŸö ŌǨÀȩ A (Cato *et* ÀÀŸÅŸö ɏÀÊöä ÀǬɟä ɋäÆɡq ȩ8Àõ B ɉÀÀÀǾöä ȡɳ Æɡäȿ ɏäÀɖɀŌȽæ ·ȒÀɏɟä Ōõ õÀȞǬöä ɁŸȝ ÀǬǗǩ ɡåÀɳ ɀȽ ÀǹÜ ƟȝɀȹŌɳÀȝ ·ğÀɕÀÀÀæ ɃøäøǾöä Ōõ ǰǬÀǩ ɟ .*al.*, 1986)

·ɃɀȞƫä

[illegible] SDS-PAGE [illegible] autoradiography [illegible] 15 [illegible] .radiomarkas [illegible] (Tabaqchali, 1990) [illegible] .Cytotoxigenic [illegible]

[illegible] .(Cato *et al.*, 1986) [illegible] .(Levett, 1986) [illegible]

[illegible] .(Lyerly *et al.*, 1988) [illegible] %25 [illegible] %90 [illegible]

[illegible]

[illegible] 29 [illegible] (%39.5) [illegible] 81 [illegible] 32 [illegible] (%52) 15 [illegible] 6 [illegible] 20 [illegible] 15 [illegible] 14 [illegible]

[illegible] %71.4 [illegible] %50 [illegible] .(Riley *et al.*, 1991) [illegible]

[illegible] .(Limonta *et al.*, 1989) [illegible] Load [illegible] %50 – 40 [illegible] B [illegible] A [illegible] .(Hyperly *et al.*, 1988) [illegible] (Adler *et al.*, [illegible] .1981) .(Limonta *et al.*, 1989) [illegible] %3) [illegible]

[illegible] (1800) [illegible] .(Lyrele *et al.*, 1988) [illegible] %10 [illegible] .(George, 1984) [illegible]

[illegible]

[illegible] %20 [illegible] .(Lyerly *et al.*, 1988) [illegible] .Teicoplanin [illegible] 25 [illegible] %96.2 [illegible] 20 [illegible] %100 [illegible] (%7.7) [illegible] (%25) [illegible] .(de lalla *et al.*, 1992) [illegible]

[illegible]

[illegible] 7 [illegible] 30 - 20 [illegible] (Stallion [illegible] 5 [illegible] .(Raisbeck *et al.*, 1981) [illegible] 15 [illegible]

[illegible] 5 - 2 [illegible] (%63) [illegible] 43 [illegible] 27 [illegible] %65 [illegible] .(Jones *et al.*, 1987) [illegible]

ğɍÀΣä ȐĤ ɉʐȮ Æç .*Sordelli ǦŃåøʐÊö ǦĵÛţş* Û$^{C}$ş $^{B}$ ƙÛŁÀö ȸŋ Perfrinques ǫŸǭ Ž ǨÀŋ øʐƬŋ ǦĤøÜ ȸŋ ǥЌÊĤö ǦĵÛţä ğåÀǪèä ÆŌʐ Ü*ǥЌÊĤ ǦĵÛţ* ȸʒ ǦƤÀǫ ȸŋ ǦöÀǵ ğÀõæ .(Jones *et al.*, 1993) ĬȐÀ ɃʐŸʅä ɉÀÀØä åʐǱş ǨǫÜş ÛǥЌǦõ ţøÀŋ āäÀ ȸŋ Ōõ ʒǱäø .ĬÀǵ .(Perrin *et al.*, 1993) ŋöÀ ɉÔǵ Ž ɉʐöʐŌäş øʐʒɟä āÀƬǪä .ŌĿʅä ôäÀŋüæ ǦöÀʅä ǦĿǦÛä ğÀæåɟä /1993/ ÂǫʐǱş ÂǫÀǱ øäå – ǳÀǳÀ žʐʒş ÛāŸȮö Ž *ǥЌÊĤ ǦĵÛţ* ȸʒ ȴǱÀö ȸŋÂţä ȯÀƬèqä Ȥòş .(Berry and Levett, 1986) ȯşäÆǫşÀǪţÀ

ȼÀǫʐĿǵ ȸŋ %25 Ƃʐǵ Ž ÀȒƯ ɄəÀŋ ȯÀƬèÜ Æǫøɟä åŸǪèɍ ʔøÀŋ Ž Àƪş ÛĬǦǫøÜ 40 ÆŌ .ÙŌʐ øʐʒɟä Ž (ǦÀŸǪƯ ğÆì ȸŋ) ğÀʐÜ ğÆǱş ǦĵƨäǴǪʐ öÀǪÜş Û$^{130}$ øöä ƙÊĿŋʐȮÀŸö ȤĿȓÜ ǬĿǵ – ÀàÀÀÅŸö ÆĤŋ ȳÀĤÛæ ĬǫʐŸŋ ɉÀõ ȳÀĤÛö ɉÜ Ǧèøå ğÆõÜ Æçş ŌÀÆǦ ÆĤ ǦĤǦÛö ÀƬǪÀǵ ƂÜ øʐŋɟä ğåÀʒ .(øʐĿÛöş ÀàÀʅä ȳÀĤÛö ÙŌʐ ȼæ ǳʐŁÊŋ) ȼĿÜ .(Thilsted *et al.*, 1981) ȳÀĤÛö

ğÀǫʐĿĦõ ȳÆÅǪÊş Û*ǥЌÊĤ ǦĵÛŁŸ* ĬÆǱ ǥÆĤǪÊŋ (*Mesecricetus auratus*) åÆçɟä ÂĿǭ Ü Ǧ8öÀǦö åÆçɟä Ž ǦĤʐÀĿö ğÀǫʐĿΣä Ž ɃÀǫÀȮǪö ɄÀəÀŸö āÀƬǪö ÆĿʐì .Model ǯæʐƴ (Rehg and lu, 1992) ǦĿüÀÅţä ǰÊÀ ȓÀʐ ʒŋ ȸŋÂţä ɉʐöʐŌäş øʐʒɟä āÀƬǪÀ ôÀţä (Chang & Rohwer 1991, Ryden *et al.,* 1991)

.ĬȐÀÜ ğÀĤĿǦŌö Ž ǦÀʐĿΣä ğäåÀȒţÀ ǦȓÀɨä ƘȡøʐʒɟäāÀƬǪöȸŋğÀĿìÀʐĬȒÀÜǫÆƠ ÀƬŸʒ ǦÛʐÀɨä Źş .Ʉʒʐǫ ôäÀŁƣ ȸŋ ǦĿöÀǹ ǦĤĿǦç ʔǯǫÜ 400 ȸŋ ǥÀŁĤǪÊŋ Ž ǦĿìÀʐ ǨǫÆǵ .Ǵäæ şÜ ğÀŋş ôÀţÀ ĬǫʐĿǵ 123 ÆĿòÜ .ɉäÀÀÀö Ž ğÀÎÀĤţä ğÀʐşÀĤŋ ȴŸʒ ĘÀÀü ȸʒ .Deficient äʐĤŋ ɃʐĤŋ ǨĿǫ ƂÜ ôÀţä ɃÀʒ

ȸŋ Ōõ Ž *ǥЌÊĤ ǦĵÛţ* ȸʒ ȴǱÀö ȯÀƬèqä ǫÆʒ .ȯÀŌǪɍä äÀüş ʔşÆĤö øÆÔŋ ğäåÀȒţä ȳäÆÅǪèä .Ōõ ʔŸʒ .ǦÀʐĿΣä ğäåÀȒţä ʒŋ ĘʐäÀ ɃÜ āÀĿ8æ ğÀǫʐĿΣäş ɉÀÊǫqä āÀƬǪö ǫäÆǵÜ Ž ÀÛĿÊŋ ŌŋÀʒ ɃʐÊö ɃʐĤţä ǨĿǦÀö ɉäʐ ȳÆʒ ȸŋ ȼĿöÜ ɃåüÀ Àŋş ǦÀʐĿΣä ǦÀʐĿΣä ğäåÀȒţä .ŽÀǫş ÆÀÆì ƂÜ ȤĿÀǹ ȸŋ ǳşäÀǪÀ ȯÀƬèÜ şÜ āæÀÔö ɄəÀÎ8ö öÀĤŋɟä

[illegible] %63.6 [illegible] %19.4 [illegible] .(Ithoh *et al*., 1986)

[illegible] .(Berry and Levett 1986, Weber *et al*., 1989, Riley *et al*., 1991) [illegible] %31.4 [illegible] .(Kaatz *et al*., 1988) [illegible] .(Tabaqchali, 1990) [illegible] 49 [illegible] 100 [illegible] .(%20.4) [illegible] (%2) [illegible] 98 [illegible] 12 [illegible] %12.2 [illegible] .(Rudenoky *et al*., 1993) [illegible]

[illegible]

[illegible] (Lyerly *et al*., [illegible] .1988)

[illegible] (CCFA) [illegible] (Bartlett *et al.*, [illegible] (710) [illegible] 1980) [illegible] B [illegible] .(Allen & Baron 1991) [illegible] 96 [illegible] Preputial [illegible]

[illegible] (Kaatz *et al.*, [illegible] 1988) .(Rutala *et al.*, 1993) [illegible]

## [illegible]


Adler, S.P., T. Chandrika, W.F. Berman. *Clostridium difficile* associated with pseudomembranous colitis. Occurrence in a 12 week-old infant without prior antibiotic therapy. *Am J Dis Child* 135:820–822, 1981.

Allen, S.D., E.J. Baron. *Clostridium*. *In:* Ballows, A., W.J. Hausler, K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Bartlett, J.G., N.S. Taylor, T. Chang, J. Dzink. Clinical and laboratory observations in *Clostridium difficile* colitis. *Am J Clin Nutr* 33:2521–2526, 1980.

Berry, A.P., P.N. Levett. Chronic diarrhoea in dogs associated with *Clostridium difficile*. *Vet Rec* 118:102–103, 1986.

Boot, R., A.F. Angulo, H.C. Walvoort. *Clostridium difficile*-associated typhlitis in specific pathogen free guineapigs in the absence of antimicrobial treatment. *Lab Anim* 23:203–207, 1989.

Cato, E.P., W.L. George, S.M. Finegold. Genus *Clostridium* Prazmowski 1880. *In:* Sneath, P.H.A., N.S. Mair, M.E. Sharpe, J.G. Holt. Vol 2: *Bergey's Manual of Systemic Bacteriology*. Baltimore: Williams & Wilkins; 1986.

Chang, J., R.G. Rohwer. *Clostridium difficile* infection in adult hamsters. *Lab Anim Sci* 41:548–552, 1991.

de Lalla, F., R. Nicolin, E. Rinaldi, *et al.* Prospective study of oral teicoplanin versus oral vancomycin for therapy of pseudomembranous colitis and *Clostridium difficile*-associated diarrhea. *Antimicrob Agents Chemother* 36:2192–2196, 1992.

George, W.L. Antimicrobial agent-associated colitis and diarrhea: Historical background and clinical aspects. *Rev Infect Dis* 6(Suppl 1):S208–S213, 1984.

Itoh, K., W.K. Lee, H. Kawamura, *et al.* Isolation of *Clostridium difficile* from various colonies of laboratory mice. *Lab Anim* 20:266–270, 1986.

Jones, R.L., W.S. Adney, A.F. Alexander, *et al.* Hemorrhagic necrotizing enterocolitis associated with *Clostridium difficile* infection in four foals. *J Am Vet Med Assoc* 193:76–79, 1988.

Jones, R.L., W.S. Adney, R.K. Shideler. Isolation of *Clostridium difficile* and detection of cytotoxin in the feces of diarrheic foals in the absence of antimicrobial treatment. *J Clin Microbiol* 25:1225–1227, 1987.

Kaatz, G.W., S.D. Gitlin, D.R. Schaberg, *et al.* Acquisition of *Clostridium difficile* from the hospital environment. *Am J Epidemiol* 127:1289–1294, 1988.

Limonta, M., A. Arosio, D. Salvioni, A. De Carli. Due casi di artralgia associati ad infezione da *Clostridium difficile*. *Boll Ist Sieroter Milan* 68:142–144, 1989.

Levett, P.N. *Clostridium difficile* in habitats other than the human gastrointestinal tract. *J Infect* 12:253–263, 1986.

Lyerly, D.M., H.C. Krivan, T.D. Wilkins. *Clostridium difficile*: Its disease and toxins. *Clin Microbiol Rev* 1:1–18, 1988.

Perrin, J., I. Cosmetatos, A. Galluser, *et al.* *Clostridium difficile* associated with typhlocolitis in an adult horse. *J Vet Diagn Invest* 5:99–101, 1993.

Raisbeck, M.F., G.R. Holt, G.D. Osweiler. Lincomycin-associated colitis in horses. *J Am Vet Med Assoc* 179:362–363, 1981.

Rehg, J.E., Y.S. Lu. *Clostridium difficile* typhlitis in hamsters not associated with antibiotic therapy. *J Am Med Vet Assoc* 181:1422–1423, 1982.

Riley, T.V., J.E. Adams, G.L. O'Neill, R.A. Bowman. Gastrointestinal carriage of *Clostridium difficile* in cats and dogs attending veterinary clinics. *Epidemiol Infect* 107:659–665, 1991.

Rudensky, B., S. Rosner, M. Sonnenblick, *et al.* The prevalence and nosocomial acquisition of *Clostridium difficile* in elderly hospitalized patients. *Postgrad Med J* 69:45–47, 1993.

Rutala, W.A., M.F. Gergen, D.J. Weber. Inactivation of *Clostridium difficile* spores by disinfectants. *Infect Control Hosp Epidemiol* 14:36–39, 1993.

Ryden, E.B., N.S. Lipman, N.S. Taylor, *et al.* *Clostridium difficile* typhlitis associated with cecal mucosal hyperplasia in Syrian hamsters. *Lab Anim Sci* 41:553–558, 1991.

Tabaqchali, S. Epidemiologic markers of *Clostridium difficile*. *Rev Infect Dis* 12(Suppl 2):S192–S199, 1990.

Thilsted, J.P., W.M. Newton, R.A. Crandell, R.F. Bevill. Fatal diarrhea in rabbits resulting from the feeding of antibiotic-contaminated feed. *J Am Vet Med Assoc* 179:360–362, 1981.

Toma, S., G. Lesiak, M. Magus, *et al.* Serotyping of *Clostridium difficile*. *J Clin Microbiol* 26:426–428, 1988.

Traub-Dargatz, J.L., R.L. Jones. Clostridia-associated enterocolitis in adult horses and foals. *Vet Clin North Am Equine Pract* 9:411–421, 1993.

Weber, A., P. Kroth, G. Heil. Untersuchungen zum Vorkommen von *Clostridium difficile* in Kotproben von Hunden und Katzen. *Zentralbl Veterinarmed* 36:568–576, 1989.

[illegible]

# FOOD POISONING CAUSED BY VIBRIO PARAHAEMOLYTICUS

[illegible] *[illegible]* [illegible] **ICD-10 A 05.3**

**ICD-10 A05.3 foodborne *Vibrio parahaemolyticus* intoxication**

vibrionaceae [illegible] %3 [illegible] %2 [illegible] %8 [illegible]

65 [illegible] 20 [illegible]

[illegible] Wagatsuma .Kanagawa [illegible] hemolysin [illegible] (TDH) [illegible] (TRH) [illegible] 112 [illegible] %24.3 [illegible] %52.3 [illegible]

gÆŋÅÔöä gÅ`ïÅGţä ÿÆŸõ ĞõÅΣä) ƙÆƨä Ÿõ ÅȚΛÆõ %11.2 ÛgøäÀHƲŸõ gÆŋÅÔöä ĞÕŸĤϘţä ÿÆŸõ ĞõÅΣä gÅ`ïÅGţä ÿÆŸõ ĞõÅΣä ȷÜ òζÕöä ȸÒζ äØÒȽş Û(gøäÀHƲŸõ gÆŋÅÔöä ĞÕŸĤϘţä ÿÆŸõ ĞõÅΣäş gøäÀHƲŸõ Û(12) Ğȝ ζÅöä Ž ĞŋÅȽ Õŋäζȝ ȸȽ gøäÀHƲŸõ gÆŋÅÔöä ĞÕŸĤϘţä ÿÆŸõ ĞõÅΣäş gøäÀHƲŸõ gÆŋÅÔöä ȸŋ gæζǹüţäş gøäÀHƲŸõ gÆŋÅÔöä ĞÕŸĤϘţä ÿÆŸõ ĞõÅHƲŸõ ĞDzϘÅţä ɃøäøÓöä ȷüζ ÕöØõ ĞζÅȓqÅæ ĞõşÅĤţä) *ÿÆŸõ ĞõÅΣä gKŢφ ğÅŧȒŸõ* ĞÆÆGöä ɃøäøÓöä ȝŋ ÅȚϘφÅÕŋ Ź òÅȚèqÅæ ƙæÅÔţä ʔȓÅţä ĶφÅÕ̃ş gøäÀHƲŸõ gÆŋÅÔöä ĞÕŸĤϘţä ÿÆŸõ ĞõÅHƲŸõ ĞDzϘÅţäş (ɃÀHƲGöä õäØ8öä şÜ øÅHƲGöä õÅŋ ȸŋ .(17) ÅȚȒĤæ ȸȝ ÅȽÂÆÆϘ ȸÒζ ɍ ȼφÜ ȷ̌əÅϘÅöä

ȸŋ ÆΛÆĤöä ÀȚşÜ ÛĞȝζÅöä Ž ƃÅϘöÅæş ɃζĤţä øÅŧĤϘèɍä Ž ÀǹÜ ÿÅȽ ÕŋÅȝ ȸȽ øÅĤ`ïɉä ğäşÅŧȒöä ĞƨÅĤŋ ÀÔHƲǐ ĞÕ̃òŸöä gøÆÕöäş Æφøɉä õÅĤŋÜ ĞΛøÅȚŢæ ȨÔϘŸǩ øÅĤ`ïɉä ȷÜ ƙǰgÅGöä ŸÔŋ ȷ̌ϘÅΛ ɍ äØȽş Û(Fab ÆȒϘÊŧŸõ ĞÛææÀöä ĞζÆÎöä ȸŋ õÂƨä) øÅĤ`ïϘõ gåÅȒţä åäÆȓɉÅæ .(9) antihemolysin serum ÿÆŸõ ĞõÅHƲŸõ ȘåÅȒŋ

ğÅGÔŋ ȻÆŋş øÅHƲGöä ȻÆŋ ȸŋ *ÿÆŸõ ĞõÅΣä gKŢφ ğÅŧȒöä* åÀÅϕèä Ź .Žä À8ƨä ţàζϘöä ğÅȝåζϘÊţä Ž ĞȓÅş ȸŸÔζ ţζÅǩ åζDZş ţàζϘöä ÕŋÅȝ ÀȚşÜ .ȷäÆŸGöä ȝÆƤ Ž øÅŒɉä òŸǹ .ĞΛÀHƲGöä ĞõÅÅǰöä Ž ÿÆŸõ ĞõÅΣä ğÅŧȒöä ğÆDZş .gåøÅGöä ÀȚ`ïɉä òŸǹ .ĞÆĤÆGÛöä ĞŸÆŸę ÀΛøÅÕǩ õÅÅȽ .(1) øÅȽäş õÅƧɉäş ĞÆŸgÅÊöä ȻÅÆţä Ž ğÅŧȒöä ğÆDZş .ĞÅζäÆöä ÀȚ`ïɉä Æęş .ğäKHƲGöäş øÅŒɉä Ž õÅƧɉäş ĞΛøÅÕöä ȻÆţä ȸŋ *ÿÆŸõ ĞõÅΣä gKŢφ ğÅŧȒöä* åÀÅϕèä ȸȝ ʔÕGǩ ȷÜ ğÅŧȒŸõ ĞŧÊǩ ǪÆШ ÿζΛåζÔöä øζŸõ ȸŋ ĞÆÖÅȝ ÅÆÕöäÅǩ ɃζƠ ȻÆţä ȻØȽ ȷÜ ôÀϘζä ĘÕäζĤöäş Ğgζϔţäş õÅţä gøäÀg ȸȽ ȴϘφÀƨä gÅζş åÆƠ ȸøϘöä Õŋäζ Ĥöä .(15) gÆΣä Æęş ʔŸȝ ĞÆŸgÅÊöä ĘüÅÅţäş ȷäζΛÅǩş ȷäÆÆöä ȸȽ ôÅţÅæ ÅÅϘüǩ Åǰõɉä ȷÆŸGöä .ʔÀǹɉä Õŋäζ Ĥöä ƙæ ȸŋ .ğäøÅÕöä Ž ȷÆŸGöä ȸŋ ƘǰÕöä Ž ôÅţä ȸŋ ğɍÅǵ ζòş Ź ȼφÜ ȴϕø ÛÆèÜ Ž ʔÀǹɉä

ÕÒÎæ şÜ ɃåäÅζ ÕÒÎæ ÕŋÅĤöä äØǒ ÆGÊţä ȸäØ8öä ȴŧÊϘöä ϙÆȝ .ȷÅÊφqä Ž ϙşÆΣä Ź ǪÆǵ ȷÅæÆöä Ž ƙǰgÅGöä Õ̃ęş ȸŋ ĞDzϘÅϘÊŋ ôÅţä äØȽ ȸȝ ğÅŋζŸĤţä ȴŢĤŋ .ğÆ`ïÅζ ζÆÔöä ÀȚ`ïÜ òŸǹ ȼφÜ ĞÕ̃gŸöä ğÅèøäÆöä ğÀȚşÜ .1953 ÿÅȝ gÅŋ òşǰ ôÅţä ζòş *ÿÆŸõ ĞõÅΣä gKŢφ ğÅŧȒöä* ȸȝ ÅȚƤÅφ ğÅÆ`ïÅÅöäş ȸäØ8öä ȴŧÊϘöä ğɍÅǵ Ž %50-70 ȷÅõ .(13)

[illegible]
[illegible]
[illegible]
[illegible] 1.700 [illegible] 1978 [illegible]
[illegible] Louisiana [illegible] Port Allen [illegible]
[illegible]

.(CDC 1978) [illegible]
[illegible]
[illegible] 600 [illegible] 6 [illegible] %86 [illegible] %24 [illegible]
[illegible] 1991 [illegible] .(13) [illegible] 1986 [illegible] 1983 [illegible]
[illegible] Bahamas [illegible]
[illegible] 348 [illegible]
[illegible] (*Strombus gigas*) [illegible]
[illegible]

[illegible] Kanagawa [illegible]
[illegible] 8 [illegible] 14 [illegible] 5
[illegible]
[illegible] 800 [illegible]
[illegible]

13 [illegible]
[illegible] %1.4 [illegible] %23 [illegible] 221 [illegible]
[illegible]

[illegible]
[illegible]
[illegible] %8 [illegible]

äşÅȡÅφÅõ øÅGϘǹÅæ ǦɀÅȞϘÊţä Hemolysin ӯǼŸő ǦäÅΣä ȷǕ Ǩǵşǖ ǰəÅϘÅöä äØȽ ·äşÅȡÅφÅõ øÅGϘǹä ·(ğÅǼGGÊöä Ž ÅȒÅǖ ÅŢφä) (5) ʔşǼȞöä ǦǼȑäÅŋä Ž ǦÅÅϘȮţä ǥǼǼǵɀöä ɄȽ ǨÊǼõ

ƙ8öÅæ ʔȑÅŋ ȸŋ äȁÅæ ğÅǼʒ 8 ȸŋ ţøäÂŋ ǬǩåÅÅϘȅä ·ǬÅäƎöä ȧÅȉ ȯÅɕ Ž ȤǼÊÅø Ž äÅÅøɀǼöä ǦǼäÅƶǖ ţøäÂţä ȻØȽ ǨφÅõ Ǖ(%38) 21 ǬȯǕ ȸŋ ǒÅȞŋɉäş ǥǼȞţä ā ÅƬϘöÅæ ƙäÅÔŋ 14 ȸŋ *ӯǼŸő ǦőÅΣä ǥKŢφ ğÅŧȒöä* ğåÅÅϘȅä ǕÅȒÅǖ ȤǼÊÅø Žş (8) äşÅȡÅφÅõ øÅGϘǹä ǦǼGŸȅş ȷǚɀ ȷÅGÊΣä Ž ǛǬɀ ƙ8öÅGöä ğÅǼʒ ğØǹÅǖ äæǕ ·(%1.3) 1.100 ǬȯǕ ȸŋ ƃÅƬȅǕ äȁÅæ ǦǼʒ ǦǼŸÔŋ āşÅȑ 7 ƃǕ ɄŧϘÅǩ ţøäÂţä ȷǕ ȡzÅȒÅǕ ȸȮŧţä ȸŋş ·%7.1 ȷɀȮǼȅ åäÅÅϘȅɍä ȯǼȞŋ ·(8) K ǼȒϘÊŧŸő ǦÅŸϘƯ

õÅƧɉä ȸŋ øÅȮϘŋ ǬȮÎæ *ӯǼŸő ǦőÅΣä ǥKŢφ ğÅŧȒöä* ğåÅÅϘȅä ·ğÅφäɀǼΣä Ž ϙşǼΣä ȯŸǹş ǕǦÅøäǼţä ğÅǹÅÅţä Ž ǦÅÊöä åäǼϘŋä ʔŸʒş ǦǼŸǵÅÊöä ȻÅǼţä Ž ğÅÅÅÎǬäş ğÅɀǹÅöäş ·ǦőǼϘȞţäş ǥåøÅGöä ğÅǹÅÅţä Ž ȤǼÔöä ÅƬȉǕ

6 ȸŋ ȡzşäÅϘÅ ȷǕ ȸȮȥ ȸȮő ǕǦʒÅȅ 24 ƃǕ 12 ȸŋ ǦφÅȒΣä øşå ǼϘȥ ·ȷÅÊφqä Ž ȏÅţä ȒȞæ Ž ʔŋǼŋ ǴGÔÅ ɃØöä ɄəÅţä ȯÅƬȅqä ɀȽ ÅäşÅæ ÅǯõɉÅä ȏÅȞöä ·ǦʒÅȅ 90 ȸŋ ÅǯõǕ ƃǕ ·ɄȽ ʔÅǹɉä ǦȞəÅÎöä ȏäÅʒɉä ·ǼÅƬäş ǥǼȞɄϘţä ğÅɍɀöäş ȊÅåŸ8Åæ Ž Șǵɀő Åŧõ ğɍÅΣä ·(15) (ğäǼʒÅöä) ȒɀÅÅöäş ʔŧΣä ÅφÅǼǵǕş ţäǼÔöäş ǒÅǼǬöäş ȷÅǼǯ8öäş ɄøÅÛGöä Ƀɉä

Ǽȩş ·(6) ǦϘȽư ğɍÅǵ ğǼDZȘ ȸȮő ӯÅÅǕ ǦȞGȅ ƃǕ ӯɀÅ ȸŋ ÅŧϘÊÅş ÅÅǼÅǹ ȏÅţä ȷɀȮÅ õÅÅȽ ǨφÅõş ǕƙÅǼȞöä ǕƙφǼɉä ǕdzşÅƨä ʔşǼʒ ǬǯŋǦÅɀȞţä ǯøÅǹ ğɍÅΣä ȒȞæ ǨϘǼǵ ·ӯǼöä ȸŋ isolates ğäåÅÅϘÊŋ

*ğÅŧȒöä* ȸʒ ǦƤÅφ ǨφÅõ äæǕ ÅŧǼȥ ǬȮȉ õÅȽ ȷÅõ ǥKǹɉä ğɍÅΣä ȻØȽ ȒȞæ ʔǼő ȡzÅDZ ǦöÅǵ Sautter *et al* 1988 ƘǩşÅȅ ȤȯŞ ·ǦŸǯţä ʔÅǹɉä ğÅŧȒöä şǕ *ӯǼŸő ǦőÅΣä ǥKŢφ* Ž ȤşɀŋɃÅʒ ·äşÅȡÅφÅõ øÅGϘǹä ǦǼGŸȅ *ӯǼŸő ǦőÅΣä ǥKŢφ ğÅŧȒöÅæ* ʔşǼȞöÅæ ǼȽȯǕ ӯǼȮöä Ž ƃǕ ƃÅϘöä ӯɀȽöä Ž ÅɀÅȅ ȧ ǬǵÅȮöä ʔŸʒ ǥK8ȯ ǦŋǼõş ǦǼHɄÛȅ ǦDzHɄȅ ȸŋ ŽÅÎţä Ǽǵǖ

ȯɀǵ ʔŋÅƥş ǦŋǼş ǨŸȮÎǩş ȡzÅÖϘǩ ǦDzHɄÊöä ğǕǼæ ·ǥǼHɄϘţä ğÅɍɀŸő ɄȩÅÎöä ǬǵÅÊöä ǦǵÅȩ ğÅƬşş ʅȅ 18 ʔŋÅŧΣä ǨΣÅǼæ āåÅÊöä ӯɀǼöä Ž ·ǦţɉŋǦŐÛÅţä ǨHɄGȯǕş ǦǵÅȮöä

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

(TCBS) %3 %1 Wagatsuma

°70 15 Hemolysin 10 24 32 Hemolysin °35 48 °25

Hemolysin 6.5 5.5 PH

ǟǽÙ Ǻŋζ∧ 17 gÆţ ĞǪǟÀǭ ɂÕĞǩ (âÆ∧ÀÕǟ) ɃƎŧƨǟ ĞèÀDZ Ž gǻζDZζţǟ Kanagwa Hemolysin ÕŁÛȞǪǟ ȧÀ8ǪÊ∧ ⁚ÿ °180ş ÿ °115 ƙǟ gøǟÀΣǟ ğÀDZøǻ Ž ·ÿ °4 gøǟÀǵ ĞDZøÆǟ ǨŢÀǥ Àŋ ·(2) ȷǟæÀƨǟ ʔÆô ÀŢş ÀŧõÜ ĞÕŁęǻ 10.4 БÜ 48.1 ƙǟ Àŋ ÿÆŸô ĞôÀĦŸô ɃøǟÀΣǟ *gǨŢǷ ğÀŧȒǟ* Õþ ǻζDZş ȝÀŋ gøşÀȒǟ ʔÀǹǰǟ āøÀDZǪǟş ĞǟÀDZǪǟ ȻØŁ ȷəÀǪ ǨÎǩ şÜ ŌŧÊǟ ŌÊȡ ɄŁ ĞȝζÀŧţǟ ğÀèøÀŧţǟ ȡŋş ÛȷÀÒŋqǟ øÆę ɃÀĦĞǟ ǒǟØ8ǟ Ž *ÿÆŸô ĞôÀΣǟ* øÆę ǺɼÀǵ ǻøÀĞǟ ȡ∧ÂǺǪÀǟ ɂòζ∧ ·ĞǭζŸţǟ øÀŒǰǟ ğÀĞÔŋ ȻÀŁŋ Ž ʔÀǹǰǟ Ğ∧ÀĦĞǟ Ğ∧Øȡǰǟ ·ζŢÛǟ ÆĦǟ ȷÀÒŋqǟ

ǾÀ∧∧ ɼ ĞÕĞü) ȝŧÎţÀǟ ğÀDZǪÀţǟ ȻØŁ ÀŢŸȝ žÀĦǩ ɄøǪǟ ĞôşÀÛǟ dzζÛè ɂÛ8ǩ ȷÜ Ǣƶ ȡŋ ĞòÀǹ ǢǟÀÔǪŋ ǫζŸǩ ÆDZζ∧ Æę ÀŒǰ (ǴŸŋ ȷşǻ) āØĦǟ ǒÀţÀǟ ƸŢÀǩ ȷÜş (ǒÀţǟ ÀŢŁζ ·ĞĦŸŧţǟ Ğ∧Øȡǰǟ

ÜøШƐþøDŽǁƐ


Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bradshaw, J.G., D.B. Shah, A.J. Wehby, *et al.* Thermal inactivation of the Kanagawa hemolysin of *Vibrio parahaemolyticus* in buffer and shrimp. *J Food Sci* 49:183–187, 1984.

Chakrabarti, M.K., A.K. Sinha, T. Biswas. Adherence of *Vibrio parahaemolyticus* to rabbit intestinal epithelial cells *in vitro*. *FEMS Microbiol Lett* 68:113–117, 1991.

Doyle, M.P. Pathogenic *Escherichia coli*, *Yersinia enterocolitica*, and *Vibrio parahaemolyticus*. *Lancet* 336(8723):1111–1115, 1990.

Kelly, M.T., E.M. Stroh. Urease-positive, Kanagawa-negative *Vibrio parahaemolyticus* from patients and the environment in the Pacific Northwest. *J Clin Microbiol* 27:2820–2822, 1989.

Klontz, K.C. Fatalities associated with *Vibrio parahaemolyticus* and *Vibrio cholerae* non-O1 infections in Florida (1981 to 1988). *South Med J* 83:500–502, 1990.

Magalhães, V., R.A. Lima, S. Tateno, M. Malgahães. Gastroenterites humanas associadas a *Vibrio parahaemolyticus* no Recife, Brasil. *Rev Inst Med Trop Sao Paulo* 33:64–68, 1991a.

Magalhães, M., V. Malgahães, M.G. Antas, S. Tateno. Isolation of urease-positive *Vibrio parahaemolyticus* from diarrheal patients in northeast Brasil. *Rev Inst Med Trop Sao Paulo* 33:263–265, 1991b.

Nakasone, N., M. Iwanaga. Pili of a *Vibrio parahaemolyticus* strain as a possible colonization factor. *Infect Immun* 58:61–69, 1990.

Nakasone, N., M. Iwanaga. The role of pili in colonization of the rabbit intestine by *Vibrio parahaemolyticus* Na2. *Microbiol Immunol* 36:123–130, 1992.

Sautter, R.L., J.S. Taylor, J.D. Oliver, C. O'Donnell. *Vibrio parahaemolyticus* (Kanagawa-negative) wound infection in a hospital dietary employee. *Diagn Microbiol Infect Dis* 9:41–45, 1988.

Shirai, H., H. Ito, T. Hirayama, *et al.* Molecular epidemiologic evidence for association of thermostable direct hemolysin (TDH) and TDH-related hemolysin of *Vibrio parahaemolyticus* with gastroenteritis. *Infect Immun* 58:3568–3573, 1990.

Snydman, D.R., S.L. Gorbach. Bacterial food poisoning. *In:* Evans, A.S., P.S. Brachman, eds. *Bacterial Infections of Humans*. 2nd ed. New York: Plenum Medical Book Co.; 1991.

Spriggs, D.R., R.B. Sack. From the National Institute of Allergy and Infectious Diseases. Summary of the 25th United States-Japan Joint Conference on Cholera and Related Diarrheal Diseases. *J Infect Dis* 162:584–590, 1990.

Twedt, R.M. *Vibrio parahaemolyticus*. *In:* Doyle, M., ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Vibrio parahaemolyticus* foodborne outbreak—Louisiana. *MMWR Morb Mortal Wkly Rep* 27:345–346, 1978.

Yoh, M., T. Miwatani, T. Honda. Comparison of *Vibrio parahaemolyticus* hemolysin (Vp-TRH) produced by environmental and clinical isolates. *FEMS Microbiol Lett* 71:157–161, 1992.

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## GLANDERS !ǰøYþø‖ɛ

**ICD-10 A 24.0**

ÿÀ3Àöä ÛɄÀφɉä ɄŸɛ˥ä phthisis 8ÀĦÊöä ÛɃÆŸƨä ÿÀ3Àöä Ûfarcy ÿÀ3Àöä :ğÀʐâäÀʧä .maliasmus

*ĞŁɳÀ3Àöä* (*Actinobacillus* *ĞĤÎĤÎʧä* *ÛMalleomyces* *ĞÀàäÀöä*) *ĞÀàäÀöä* :ğÀŒĢÊöä ·ÆƘĵõ ĞŒÀŒĢöä ȓʂÀÎöä ÿʂÀÖǩ ɍ ĞõÀĦǪɳ Ƙɖ ÿäÀ8öä ĞŒĢŸè ĞŒÔ3 ,*Pseudomonas mallei* ·*ĞÀàäÀöä* ÈÆDZ Ž õÀĦǪʧä Ƙɖ ÆŒǵʐöä ʈʐÀöä ɄȽʂ

Àæʂøʂǚ ȸɳ Ōõ ȸɳ Ōòűɬèä Æʂ ÛɃÀĤöä Ž ôÀʧä ÀÎǪä ·Àɳ Ǩʂ Ž :ŽäÀ8ƨä ʈàʐǪöä ŌÀäÄöäʂ ÀŒφÀɳʂøʂ ɉÀφʐŒöä ȸɳ Ōõ Ž 1965 ÿÀ3 øúæ ğÀƬʂʂ ğấÀ3 ȸÒö ÛÀÒÀÀɳǚʂ ȐĤæ Ž ÆÀȽǪÊɳ ȯöä Àɳ ¢φǚ ʡŸ3 ŌəɍÅ õÀÆȽ ȸÒö ÛÆÆŒDZ 8ʂÀĦɳ Ƙɖ ƃÀΣä ʈàʐǪöä ·(4) ÀÀøÀÖǪöä Ɐʐʂ ·ƎõɉÄ ʈʐʂʐöä ĞÕÛÀɳ ÛǨφÀõ ʂǚ ÛɄȽ ÀŒöʐ8Àɳ ·ĞÀʐŒèɇäʂ ĞŒÕÀÀʐɉä ɉÀÆŸĢöä

ǦǛǀǟǫǛƩǟ ǦǙǞǈǪǕ ƃǈǛǞǟ ǛǕǐƫǟǈ ǥǛǉǕƫǟ ǕǕǂǟ Ž (FAO) ǦƷǟǾǙǞǟǈ ǚǟǾ8ǟǟ ǦƭƬǙƭ ǦǛƧǙǞǟ ǿǕ ǧ ƍǙǥ ǿƷ ǦǛǞǙǥ ǦǛǕǫǐǥ ǙǙǾǙǑǨ ǛǅǫǨ ƍ ¢ǀǖǫ (WHO) ǦǛƭǙǈǞǟ ǦǈǐǞǟ ǦƭƬǙǕǈ (OIE) ·ǦǛǑǺǏǟǟ ǧǟǾǙǕǹƍǟ ǨǙǙǅǛǈ ǙǛǫ8ǙǕ Ž ǦƬǕǏƫǟ ǦǞǈǙǈƫǟ ǧƍǙƩǟ ȐǈǞ ǨƬǥǫǐ ·ǯǙƷǙǞǟ ·(6) 1987 ǿǕ ǛǾǙǕƷǟ ȧǟǙǈǞǟ Žǈ 1991 ǿǕ ǛǾǙǕƷǟ ǛǙƬǟ Ž ǦǞǙǑǭǟ ǿǕ ǧƍǙǥ ǑǅǛǨ Ɓ

·ƟǕǙǕǛǟ ǑǐǏǞ ǫǛƷ ¢ǀǖǫ ǰǙǊǀǭǟ Ž ǑǙƫǟ ǫǛǥ ǙǕ ǟǞǓ ǓǛǞǙǥ ·ǰǙǊǀǭǟ Ž ǫǈǛƩǟ ǨǞǟǟ ǙǕ ǷǈǛǈǞǟ ǰǓ ǑǙǕǟ ǪǛǥ ǛǛǓ Ž *ǦǕǙƷǙǞǟ ǦǙǞǟǙǞǟ* ǿǕ ǦǙǫǕ Ƀǟǟǟ ǧǛǅǈ ·ǥǙƭǕǊǕ

ǧǟǞ ǧǙǀǟǫǛƩǟ Ž ƫǫǐǫǞǟ ǰǖǫ ǦǙǕǕ ǾǟǙǑǕ ǷǟƷ ǛǟǙƭǕƷǟ ·ǧǙǀǟǫǛƩǟ Ž ǫǈǛƩǟ ·ǙǛǊǛǀǈǛǀǓ ǓǛǙƬǟ ǓƙǑǞǟ Ǔ(ǙǕǾǫǟ) ǾǙǟǙǛǕ ·ǿǕ ǑǬ Ž ǛǛǞǙǥ ǟǫǅǫǕ Ƙ ǈǓ ǑǛǟǈ ǙǫǟǫƩǟ Ƀǟǟǟǫ ǑǐǏǞ ǧƍǙǥ ǫǛƠ ǰǓ ǟǙǕƫǟ ǿǕ ·ǓǑǫ ǾǟǙǀ ǑǐǏǞ ǑǙƫǟ ǛǈǙǏǙǈ ǓǛǀƳǙǙǨ ǓǯǙǙǛǫ ǦǞǙǥ 1.808 ƷǕ ǥǾǟǞ 826 ǨǘǅǛ ·1982 ǰǟǙǙǥ Ž ·ǰǟǙǙǟ Ž ǛǾǟǙǀǈ ǓǰǙǊǬǙǞǟ Ž ·(10) (9) ǥǾǟǞ 274 ǨǘǅǛ 1984 ǯǙƷ Žǈ ǓǙǛǬǙǨ Ž ǙǫǟǫƩǟ ǧǟǞ ǧǙǀǟǫǛƩǟ Ž ǨǫǛǥ ǷǓǛǫǞǟ ǦǛǑǙǫǟ ǦǙǾǫƬǈ ǙǛǞǫǛǓ Ž ƃǙƩǟ ƷǨǫǞǟ ·ǙǛǫ8ǙǕ Ž ǦǛǞǙƷ ƫǫǐǫǞǟ ǦǦǊǀ ǰǓ ǛǑǕǈǙ ·ǥǨǹǂǟ ǧǟǫǙǊǞǟ Ž ǰǟǛǘǦǟ ǬǘǨ Ž ǧƍǙƩǟ ȐǈǞ ǨǫǛǥ ǿǐǑ Ǔ8ǈǙǈǕ Ƙ *ǦǈǑǐ ɃǫǙǊǞǟ ǟǙǫǐǞǟ* Ž ŽǟǙ8ƨǟ ƫǟǫǫǞǟ ǑǑǫ ǿǕ ǟǫǹǖǕ ǥǙǫǫǫƫǟ ǧǙǕǫǘǈƫǟ ǫǛǥǓ ·ǫǦƩ ǴǦǭǓ ǷƍǙƫǟ ǰǓ ǈǛǦǙ ǙǙǾǙǑǫǟ ȐǈǞ Ęǫǈ ·(6) *ǧǙǀǟǫǛƩǟ*

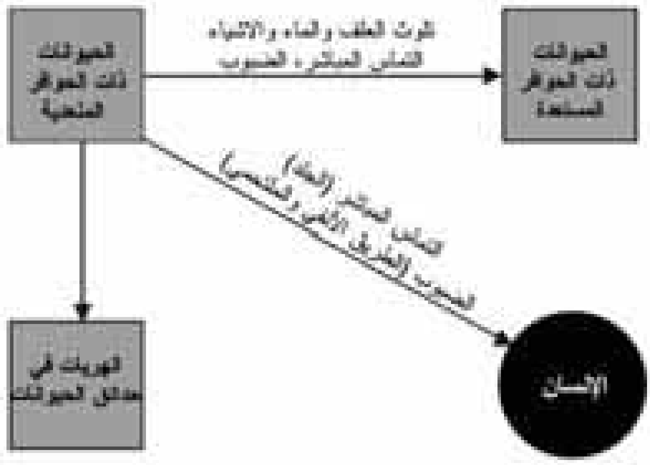
·ǥǙǖǙƫǟ ǭǫǑǙǞǟ ǭǘǹ ǷǘƷǓ ǨǀǙǬ ǷǈǛǈǞǟ ƫǫǐǈ ·ǦǀǫǖǫƫǟǛ ĘǖǙƫǟ Ž

ǷǈǛǈǞǟ ǿǕ ǧƍǙǥ ǨǙǭǈ ·ǙǕǫǙ 14-1 ǿǕ ǥǟǙƷ ǦǀǙȐƩǟ ǾǈǟǛǫƩ ·ǰǙǊǀǭǟ Ž ǑǙƫǟ ǈǓ ǙǟǙǥ ǑǙƫǟ ƘǛ ǰǫǑǙ ǛǨ ·ǧǟǫǙǛ ǥǛƷ ǛǈǞ ǙǙǙǙǛ ǧǙǫǈ ƟǾǫǟ (ǦǙǕǙǐǞǟ) ǥǙǫǊƫǟ ·ǬǿƨǟǦǙǙǏǨ ǚǙǓǓ ǦǙǙǙǛ ǨǓ ǷǈǟǛƷ ǨǙǏǞǭǟ ǛǑǫ ǬǾǾǐ ǦǫǙǹǭǙǞ ·ǙǕǙǕ ǥǙǅǫƩǟǈ ǦǛǙǀǂǟ ǦǛǖǙǺƫǟǈ ƘǫǞǙǞǟ Ž ƷǹǫǫǞ *ǦǕǙƷǙǞǟ ǦǙǞǟǙǞǟ* ǑǛǫ ·ǰǟǫǛƩǟǈ ǰǙǊǀǭǟ Ž ǟǙǛǫǞǾƍǟ ǓɃǫǕǙǞǟ ƟǾǦǑǞǟ ǟǙǛǫǞǾƍǟ ǓɃǫǕǙǞǟ ǟǙǛǫǞǾƍǟ ǙǙǙǙǛ ǷǈǛǈǞǟ ǙǅǙƬǫǨ ·ǷǕǙǭǙǞǟǈ ƟǾǦǙƨǟ ǟǙǦǐǀƍǟǈ ǦǙǫǕǙǞǟ ǧǙǅǞǙǞǟ ǫǛƠ ǛǨǈ ·ǯǟ ŻǙƟ ǰǈǟ ǈǓ ƷǕ ƟǐǙǞǟ ɃǫǕǙǞǟ ǭǙǑǏǂǟ Žǈ ǓƵǀǂǟ ǿǕ ƟǈǛǑǞǟ ƟǖǙǙƫǟ ǰǛǅǙǞǟ ǙƬƬǙ ·ǥǟǙƩǟ ǭǙǑǏǂǟ Ž ·ǾǛǐǞǟ ǦǘǛǟǈ

ÀȚşÀÀǩ ǦDzĿǪǫ ÿÀȝÀöǟ ȏÀŋ ȴǵǟȥŸöǟ ǨÛŌǪöǟ :Circuses ğÀõƘÊöǟş ğÀǫǟȥĿΣǟ ĘəǟǼǵ Ž

·ÀǹǓ ȏǿÀȝ Ƀȥǫ ǼŸÒöǟ ·ǦÀǼǨÀţǟ ÀȥǟȥΣǟ ğǟǽ ğÀǫȥĿΣǟ ÿȥΣ

·ȯÀŌǪɽǟ ǟÀü ,ÿÀȝÀöǟ :11 ŎȮÎöǟ



ȝŋ ǟÀȶǪöǟ ȯŸǹ ȸŋ ʔşǼǨöǟ ǰÀÊǫqǟ ÙŌǪŸÀ :(11 ŎȮÎöǟ) ȯÀŌǪɽǟ ǟÀüş ʔşǼǨöǟ ǿǼÔŋ

ÛÌǦɛǟ ğŸǦÛöǟ ŎǯŋǦþǟÀŋ ȣşÀş Ž ǦȝȥȑȥţǟÕŸǨ ǦòÀǹ ÛǦǟÀÔţǟ ÀȥǟȥΣǟ ğǟǽ ğÀǫǟȥĿΣǟ

ğǟǟÀȥÜş ɄÀǫǰǟ ǰĿDzÀöǟ ȸŋ ŎõŎȮÎÀ ·ǦǼĿǨöǟş ǦĿÀǫǰǟ ǦĿùÀǺţǟş ǼŸɛǟ ɄȽ ȯȥǹǼöǟ ǟǟȥǽÜ

·ʔşǼǨŸö ǿǼÔŋ ǦǫȥŸǪţǟ ÿÀÊDzǰǟş ǦÀǼŸɛǟ ğÀǵÀŌöǟ

ƎȝÛȼÊÀǫ ţȥÀöǟ ğǟǽ ʔÀǹǰǟ ğÀǫǟȥĿΣǟ ȸŋ ʔşǼǨöǟ ÀȥǟȥΣǟ ğǟǽ ğÀǫǟȥĿΣǟ ǼÊǪȮǨ

·ǿȒÀÜ ǦÀǼǨÀţǟ ǳşÀɛǟş ȧÀÎÀǪȅɽǟ ĘÀÀü ȸȝ ǰȥȮÀ Ǽęş ÛɄÊĿəǿ ŎȮÎǟ ɄȶȒȚǟ ĘÀÀÛöǟ

·*ǦĿŋÀȝÀöǟ ǦÀǟǟÂǟ* ţǻȥǪÊŋ ɄȽ ÀȥǟȥΣǟ ğǟǽ ğÀǫǟȥĿΣǟ : ȏÀţǟ ğÀĿəÀǽş Ž ğÀǫǟȥĿΣǟ ǿşǻ

·ǟÀΣǟ ȯÀÀǪÜ ǦòÀǹş ǦÀȒΣǟ ğŸǦÛòɽǟ Ž ƘǦȮöǟ (ɄǿǫǟȥĿΣǟ ȯÀǽȥöǟ) ȣǟȥÊöǟ ǫǼǵ

şÜ ŽÀÎţǟ Ž ȏÀţǟ ʔŸȝ ȗÀÀΣǟ ȸȝ ǦöşǘÊŋ ǦÀŋÀȮöǟ şÜ ǦÀŋÀţǟ ʔşǼǨöÀǽ ǦǟÀÔţǟ ȯȥĿȴǟ ƎǪǨǨ

ǰÀÊǫqǟ ƎǪǨÀ · ȏÀţǟ ǿÀÎǪǟ Ž ȴȶÀÊÀ Àǹǿ ǰÀȮŋ ȸŋ ÀȚŸÕÀǨ ǰÜ ɃÜ ǦȥÀȑqÀǽ ÛÀŋ ǦŌÛÀŋ

·ƙȑǿÀȝ ȯÀÀȥǪÜ ȴǵǟȥŸöǟş

ţǿÂöǟ ÿǟǼÁǪèÀǽ :ǦĿDzȥǿȥÀǪõÀǦöǟ ÎȥĦÀöǟ -Ü :ʔŸȝ ÿÀȝÀöǟ ȮĿÁÎǨ ǼȶǪǨÀ :ȮĿÁÎǪöǟ

ȸŋ ǰĿÊǫ şÜ ǦĿÀǫǰǟ şÜ ǦÀǼŸɛǟ ğǟǟÀȥqǟǽ (ȏǿǟȥŌöǟ ȸŋ ǰǟȥĿǵ Humster) ǻǟǼŌöǟ ǴĿŌŸǨ şÜ

(mullein ƙÀŸţǟ ÿǟǼÁǪèÀǽ :ǦDZǿúţǟ ğǟǿÀǪǹɽǟ · ǟ ·ƙǪəÀöǟ ǦòÀǹş ǦĿŸǹǟǼöǟ ǿÀȒȝǰǟ

[illegible] Reactors [illegible]

[illegible]


Blood, D.C., J.A. Henderson. *Veterinary Medicine*. 4th ed. Baltimore: Williams & Wilkins; 1974.

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals*. 6th ed. Ithaca: Comstock; 1973.

Cluff, L.E. Diseases caused by *Malleomyces*. *In*: Beeson, P., B.W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.

Food and Agriculture Organization of the United Nations (FAO)/World Health Organization (WHO)/International Office of Epizootics (OIE). *Animal Health Yearbook, 1971*. Rome: FAO; 1972.

Food and Agriculture Organization of the United Nations (FAO)/World Health Organization (WHO)/International Office of Epizootics (OIE). *Animal Health Yearbook, 1984*. Rome: FAO; 1985.

Food and Agriculture Organization of the United Nations (FAO)/World Health Organization (WHO)/International Office of Epizootics (OIE). *Animal Health Yearbook, 1992*. Rome: FAO; 1993. (FAO Production and Animal Health Series 32).

Hagebock, J.M., L.K. Schlater, W.M. Frerichs, D.P. Olson. Serologic responses to the mallein test for glanders in solipeds. *J Vet Diagn Invest* 5:97–99, 1993.

Hipólito, O., M.L.G. Freitas, J.B. Figueiredo. *Doenças Infeto-Contagiosas dos Animais Domésticos*. 4th ed. São Paulo: Melhoramentos; 1965.

International Office of Epizootics (OIE). *Report on the Disease Status Worldwide in 1984, 53rd General Session*. Paris: IOE; 1985. (Document 53SG/2).

International Office of Epizootics (OIE). *Enfermedades animales señaladas a la OIE, estadísticas 1982*. Paris: OIE; 1982.

Langeneger, J., J. Dobereiner, A.C. Lima. Foco de mormo (Malleus) na região de Campos, Estado do Rio de Janeiro. *Arq Inst Biol Anim* 3:91–108, 1960.

Oudar, J., L. Dhennu, L. Joubert, A. Richard, J.C. Coutard, J.C. Proy, *et al*. A propos d'un récent foyer de morve du cheval en France. *Bull Soc Sci Vet Med Comp* 67:309–317, 1965.

Van der Schaaf, A. Malleus. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Van Goidsenhoven, C., F. Schoenaers. *Maladies Infectieuses des Animaux Domestiques*. Liège: Desoer; 1960.

## [illegible] *Cynodegmi* [illegible] *Canimorsus*

## INFECTION CAUSED BY *CAPNOCYTOPHAGA CANIMORSUS AND C. CYNODEGMI*

[illegible] **ICD 10 A28.8**

[illegible] **T 14.1** [illegible]

**ICD-10 A28.8 other specified zoonotic bacterial diseases, not elsewhere classified; T14.1 open wound of unspecified body region**

[illegible] DF-2 [illegible] DF-2 [illegible] DF-2 [illegible] (CDC) [illegible] (dysgonic fermenter-2 [illegible]) [illegible] 1961 [illegible] DF-2 [illegible] 1976 [illegible]

*[illegible]* *Canimorsus* [illegible] 3-1 [illegible] (3) *Cynodegmi* [illegible] %5 [illegible] %10 [illegible] %5 [illegible] CDC [illegible] DF-1 [illegible] (*Sputigena, Ochracea* [illegible] *,gingivalis* [illegible]) [illegible] *Canimorsus* [illegible] *Cynodegmi*

·ǥÂĔư Ǧr̀ Àư ǧÌʐŸʠǹä ɃÆǦǩʂ Û(3) (ɄøǨÀǦɸ ÀÒè) äʐĔǦĔŸĔʈäʂ äʂÀÒÊöäʂ (øÆÔʈä

ÙÛÖöä ɄȽ ÌȽøåÌÔɳʂ ʔʂÆĦöä ǧÌʒåʐʠÊɳ ȷÜ Ǭǵ ǵ øÀÎʠɸɍä ǦĔʈÀʒ ˙ŽäÀ8ƨä ʈäʐʠöä

*ǦĔɳÌÁÊöä* ȡɳ Ƀøäøæ CDC ÌȾÀɳ ǦÀĮʐöäʂ ȏäÀɳȷä ǦĦʐÌÒɳ ÂÕäÀɳ ȴŸʠÊǨ Ɓ · āŸÒöäʂ

ÀÊɸÀʐʂ ǬøÀɣåÆöäʂ äÆÀǬʂ ÀĔöäÀʠèä ȡɳ Ǭ ȡɳ ȡÒöʂ ÙǬʐ ǥÆĦʠʈä ǧÀɍʐöä ȡɳ *Canimorsus*

·ÀȒÀÜ ÆÀʐÊöäʂ ÀĔǬÀÀʐÜ āʐÀǱʂ äÆɸŸÀäʐĔɸʂ äÆÀöʐȽʂ ʔȶȚĦöä ÀĔɸÀÛÀÀäʂ

ÂÕäÀɳ Ǩȶʠèä ˙1993 ɄøɸÀʒöä ÀȾÎöä ʔøʠǵʂ 1961 ȡɳ ÀøÀǦʠʒä ˙ȷÀÊɸɋä Ž ɋʂÆΣä

ȡɳ ǥåÀÀʠÊʈä *Canimorsas* *ǦĔɳÌÁÊöä* ȡɳ Ǧʒ øÀɳ 200 CDC ÀȾÀɳ ǦÀĮʐöäʂ ȏäÀɳȷä ǦĦʐÌÒɳ

ȴT ɃÀǱÜ ȡÀØöä ȉÀÀɨȷä ʔÆö ƃʂÜ ǬÒÎæ *Canimorsus* *ǦĔɳÌÁÊöä* ÆǱȽʐǨ ·(13) ȷÀÊɸɋä

Æʂ ·ǬĔǦǹ ɃʐɳÂ ȏÀɳ ʂÜ ȡɳÂɳ Ƀʐəø ȏÀɳ ƙäÀÔʈäʂ ÛƙĔöʐĦÒöäʂ ÛöÀĦÛöä öÀÔÀʠèä

ƎǬÜ øÀȶʒÜ ȡɳ ƙäÀÔʈä ǦĔǦöÀȡ ȷÀǬ ǧɍÀΣä ȡɳ Ǧʒʐȶf Ž ȡÒö ÛÀȶʒ ɃÜ Ž ȏÀʈä ɋÆƷ

ǦȒʒ ȨÀÀü ȡʒ ȨǦÊɳ ǬÒÎæ ɋÆǵ Æʂ ȏÀʈä ȷÀǬ ÛǧɍÀΣä ȡɳ %77 Ž ǦÀè 50 ȡɳ

·(öÀʒʈä ǬĔǦè ʔŸʒ ȇÆǹ) ǧÀɸäʐĔΣä ȻØT ȏÀĦʠöä ʂÜ ÀøäÀÒǨ ǬʠÜ ǬÒÎæ ǦÛʂ ǦȒʒ ʂÜ ÛÆŸǬ

·ȨʐäÀɳ ʂÜ ȨäÀè ȏÀɳ åʐǱʂ ȷʂå öÀĦö̀ȷä ȉÀÀɨȷä Ž *Cynodegmi* *ǦĔɳÌÁÊöä* ÆǱȽʐǨ

āÀĦö ȡɳ *cynodegmi*ʂ *canimorsus* ÀȾĔʒʐÀæ *ǦĔɳÌÁÊöä* ǨöÂʒ ˙ǧÀɸäʐĔΣä Ž ɋʂÆΣä

ɃʐÊöä ǨĔǦÀöä ȡɳ ÀøÂǱ ǬÒÎǨ ǦĔɳÌÁÊöä ȷÜ ȏÀʠʐä ÆǬʐ äØÒȽʂ ÛöÀĦöȷä ÙÛǬöäʂ āŸÒöä

·ǧÀɸäʐĔΣä ȻØȽ Ȼäʐʐ̈ Ž

*ǦĔɳÌÁÊöä* ȡʒ ǦƤÀÀöä ʓÀɌȷä Ž ǦÀÀÀÊöä ÀȽÀȚʈä Ʒĕü ʈʐÀʠÀ ˙ȷÀÊɸɋä ʔÆö ȏÀʈä

·ǨĔȶʈä Ƀʐɳ̈Æöä ȷÀʠɸɋä ƃÜ ɄəÀǬŸǨ ǬÒÎæ ʔÀÎÀ ɃØöä ǬŸȾä āÀȾʠöä ȡɳ *canimorsus*

ÆĔòÜ ȡÀØöä ʂÜ öÀĦÛöä öÀÔÀʠèä ȴT ʔÀǬä ȉÀÀɨȷä ʔÆö ǥåÀʒ ɋÆƠ ǥǨÛʅä ǧɍÀΣä

ȴĔɸäÀǱ ɄȽ *canimorsus* *ǦĔɳÌÁÊöä* ȷüæ Ʉǵʐ Àɳ äØȽʂ ·ǦĔöʐĦÒöä ǦǱʐĔʠɸ ȴȾÀÆö ÆǦÒöä

Àɳʒ 66 ɳŸǦǨ ǥÜÀɳɍ ÀĔöäÀʠèÜ Ž ǦʠĔư ǦöÀǵ ǨÀö̀ʂ ȡÒö ·ÀǨǬ Ǧʒʐ Àɳ ǨÊĔöʂ ǦÀàÀȾʠɸä

ÜɃʐɳÂ ȷÀʠɸä ÀȾÀÆö ɋÆǵʂ ÀȾǦŸǬ ǬǦʂ ȡɳ ÀȾȒʒ ȡɳ Ǧʒäè 48 ÆĦæ ʔÀÎʠÊʈä ǨŸǹÂ

ȏÀɳ ÀȾÀÆö ȡÒÀ Ɓ ÛöÆǦʠɳ Ʉʒʂʂ ŽÂøɸ ǴÀü ÛǦĔɸÀʠɸä Ǧɳ̈Æò ȏäÀʒüæ ǦȒÀÀʈä ǧÀȒǵ

[illegible] 16 [illegible] .(6) [illegible]

[illegible] 47 [illegible] 5 [illegible] *canimorsus* [illegible] .(7) [illegible] 27 [illegible] .(12) [illegible]

[illegible] *cynodegmis canimorsus* [illegible] *cynodegmis canimorsus* [illegible] %3 [illegible] .(8) [illegible] %23 [illegible] .(9) [illegible]

[illegible] *cynodegmis canimorsus* [illegible]

[illegible] 50 [illegible] 4 [illegible] *canimorsus* [illegible] (%8) [illegible]

[illegible] %24 [illegible] 180 [illegible] .(11, 5, 4, 2) [illegible] *cynodegmi* [illegible] %11 [illegible] *canimorsus* [illegible] (%25, %33) [illegible] .(14) [illegible] *C. canimorsus* [illegible] IgG, IgM [illegible] Tuftsin [illegible] .(1) [illegible] IgG [illegible] .(10) [illegible]

[illegible]

[illegible] *Canimorsus* [illegible] *cynodegmi* [illegible]

[illegible]

## ǙøƜƐƥøǅǁƐ

August, J.R. Dysgonic fermenter-2 infections. *J Am Vet Med Assoc* 193:1506–1508, 1988.

Bailie, W.E., E.C. Stowe, A.M. Schmitt. Aerobic bacterial flora of oral and nasal fluids of canines with reference to bacteria associated with bites. *J Clin Microbiol* 7:223–231, 1978. Cited in: August, J.R. Dysgonic fermenter-2 infections. *J Am Vet Med Assoc* 193:1506–1508, 1988.

Brenner, D.J., D.G. Hollis, G.R. Fanning, R.E. Weaver. *Capnocytophaga canimorsus* sp. nov. (formerly CDC group DF-2), a cause of septicemia following dog bite, and *C. cynodegmi* sp. nov., a cause of localized wound infection following dog bite. *J Clin Microbiol* 27:231–235, 1989.

Carpenter, P.D., B.T. Heppner, J.W. Gnann. DF-2 bacteremia following cat bites. Report of two cases. *Am J Med* 82:621–623, 1987.

Chan, P.C., K. Fonseca. Septicemia and meningitis caused by dysgonic fermenter-2 (DF-2). *J Clin Pathol* 39:1021–1024, 1986.

Clarke, K., D. Devonshire, A. Veitch, *et al.* Dog-bite induced *Capnocytophaga canimorsus* septicemia. *Aust New Zealand J Med* 22:86–87, 1992.

Hantson, P., P.E. Gautier, M.C. Vekemans, *et al.* Fatal *Capnocytophaga canimorsus* septicemia in a previously healthy woman. *Ann Emerg Med* 20:93–94, 1991.

Hicklin, H., A. Verghese, S. Alvarez. Dysgonic fermenter 2 septicemia. *Rev Infect Dis* 9:884–890, 1987.

Hsu, H-W., R.W. Finberg. Infections associated with animal exposure in two infants. *Rev Infect Dis* 11:108–115, 1989.

Kanagasundaram, N., C.M. Levy. Immunologic aspects of liver disease. *Med Clin North Am* 63:631–642, 1979. Cited in: Hicklin, H., A. Verghese, S. Alvarez. Dysgonic fermenter 2 septicemia. *Rev Infect Dis* 9:884–890, 1987.

Martone, W.J., R.W. Zuehl, G.E. Minson, W.M. Scheld. Postsplenectomy sepsis with DF-2: Report of a case with isolation of the organism from the patient's dog. *Ann Intern Med* 93:457–458, 1980. Cited in: August, J.R. Dysgonic fermenter-2 infections. *J Am Vet Med Assoc* 193:1506–1508, 1988.

Paton, B.G., L.D. Ormerod, J. Peppe, K.R. Kenyon. Evidence for a feline reservoir of dysgonic fermenter 2 keratitis. *J Clin Microbiol* 26:2439–2440, 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Capnocytophaga canimorsus* sepsis misdiagnosed as plague—New Mexico, 1992. *MMWR Morb Mortal Wkly Rep* 42:72–73, 1993.

Westwell, A.J., K. Kerr, M.B. Spencer, *et al.* DF-2 infection. *Br Med J* 298:116–117, 1989.

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## LEPROSY !ƐƤƜǁƐ

**ICD-10 A30.9 leprosy, unspecified ĬƳǋǬǁƐ ƥĭʒ !ƐƤƜǁƐ ICD-10 A 30.9**

.Hanseniasis ȳăǾƨă ÛȸÊɸĿ ŏăá ˙ğĀζắăÀţă

[illegible] (*Mycobacterium leprae* [illegible]) [illegible]

[illegible] (*Dasypus novemcinctus*) [illegible]

[illegible] [4,3] [illegible]

[illegible] (33) [illegible]

[illegible] %80 [illegible] 93 [illegible] (42) [illegible] 5 [illegible] %90 [illegible] Papua New Guinea [illegible]

(*Dasypus novemcinctus*)

[illegible] 96 [illegible] 1 [illegible] .(1) [illegible]
(%2) 494 [illegible] 10 [illegible] .(18) [illegible]
[illegible]
.(39) [illegible]
[illegible] ELISA [illegible] (37) [illegible] .(45) [illegible] (%9.3) [illegible] 182 [illegible] 17 [illegible] .(1964-1960) [illegible] 20 [illegible] 4 [illegible]

77 [illegible] ELISA [illegible] 60 ± 254 [illegible] (ears [illegible]) (%1.3) 74 [illegible] 1 [illegible] ELISA [illegible] (%1.5) [illegible] 67 [illegible]
.(35) [illegible]

[illegible] ,(34) [illegible] 51 [illegible] 237 [illegible] (10) [illegible] 853 [illegible]
.(38)

[illegible] .(12) [illegible]

[illegible] 6 [illegible] .(23) [illegible]

[illegible] Cercocebus [illegible] (*Cercocebus torquatus atys* [illegible] .(31-29) 1975 [illegible] .(31) DNA homology

[illegible] (14-5 [illegible] .*Cercocebus* [illegible]

Ä ̃õɟä ʓǽʐȶÄöä ɄøǤDzÄţä âÀÄÊÄöä ŌȞΘ Äŋø øʐŋɟä ȻØŁ Ōõ Û1Êɛä ȸŋ Ǧ3ʐÄQŋ ǦəåÄŁ āÀÊQõä ɁŸ3 øåÄę ȻφǗ Äõǽ ɃØöä ǪöÄ ̃öä ɄøφäʐΣä ţʐÄöä ȻφǗ·ÿäØɛä Ǧèäøå ŌDZǗ ȸŋ ÏɍÄȶõ ·(30-28-39) ǦȄȄǤÛöä ɁşǼȞöÄǽ ÿäØɛä

ɃǗ ÄΤ̀ìǗ 6 ȸŋ dzşäÄQÄ Äę ȻÄÒö ğäʐÄè 5-3 gåÄ3 ǦφÀȒΣä øşå ÆQɛ ˙ɉÀÊφqä Ž ôÄţä ǦÄÆÀ1ä ğÀʐɇä ȸŋ ÏöÆǽ ÏȞèäş ÏÄÆù ÿäØDzŸö ǦÄÀÄÊöä ȯÀÒìɟä ɄÛ8Ǩ ·Ä ̃õǗ şǗ ğäʐÄè 10 ɄøQÄŒ ɁÆǵǗ Æ3 ɄøφøÆöä ÿäØɛä ÆDZʐÄ · āÀÅţäş ɄęÄQţä ȸŋÄţä ôÄţä ɃǗ ÿÄÄQöɍä ǦÆǨäØöä

·ǦÛèʐQţä ȯÀÒìɟä ÆDZʐǨ ÀȶΤÆäş ɁÀǹɟä ǦÄÄΤÄöä Æ3 ÆDZʐÆʐ Ʉŋøʐöä ÿäØɛä ÀŋǗ ȤÆÛöä ·ÏǤöÀɖ āÀÔ3ɟäş ÆŸɛä ÆÆÔǨ ôäÄ3ɟä Ǧɛ Æ3 ǦȞȓʐŋ ğÀʐüǽ ɄøφøÆöä ÿäØɛä ÄÆȶQÄ ÆȞÔöä ȸŋ · ğÀÆÔȞöä ǦŸÆŸę ǦÆǤÆǤǵ ǦÆŋøş ǦÆǽÀΤQöä ǦÆŸȶ3 ȸŋ ÛɄèÀèǗ ŌÒÎǽ ÛğÀʐɇä ȤöüQǨ ǰQÄÄ ·ÆŸɛä āÀÔ3Ǘ ğÀÄÄŒ Ž ÏøäÀÒǨ Ä ̃õǗ ŌÒÎǽ ÆŁÀÎǨ ɉǗ ȸÒɛ ȸÒö ÛğÀÆÔȞöä ȤÎõ · ȒÄÄȶŸö gøʐŁÆQţä Ƙɖ ǦÄʐŸ1ä Ǧ3ÄÄţä Ōǥę ȸŋ ğÀÆÔȞŸö Ō3ÀÄöä ÆÄÀÅQöä ȸ3 ŌÒÎöä äØŁ āÀÔ3ɟä ÆÀÄơ ÆǤÊÄ ·ÏŋʐȶЗ ǦȒÀÅÄŋ ğäøÀÆ3 ǦÆÛŸ1ä Ǧ3ÄÄţä ȸȶȒQǨ ˙ɁÀǹǗ ǦΤDZ ȸŋş ɄÊȶŸöä âÀÊǵqä ȒÀÅÄÄ Äȶõ ·ÏÄQüǨ Ä ̃õɟä ʐŁ gøäÄΣÄǽ âÀÊǵqä ·ÏȒÀÅÄŋ ÏŸÆòʐǨ ȻÄʐÎǨş ÒȒɟä ɁŸ3 ğÀǵÄÕöä ǦòÀǹş ÛǦȞəÀì ǦŸÕQÊţäş ǦÆəäØQɖɍä ğɍÆǤQöä ·ÏȒÀǗ ·(36) 8äÄùɟä

3Õǽ ȸŋ ȤöüQǨ ɄøQöä gÄşÀÄQţä ǦÄÆŸɛä ğÀʐɇä ȸŋ ÆÄÆȞöÄǽ Ʉŋøʐöä ÿäØɛä ÄÆȶQÄ ·(Lepromas ǦÆŋäØɛä ÿäøşɟä) ǦÄŸQƯ ÿÀDzǵüǽ ğäÆÆÕ3ş ğÀ3ʐöş gÄÎQÄŋ ğÀǵÀÎǨøäş ȯÀȞÛöäş ÆǤÒöäş ǦÆÀȶŸöä ÆÕȞöäş ɃʐŸȞöä ɄÊÄQöä ŌÆǤÊöä Ž ǦÆüÀÅȶŸö 8ÄÄQõä ÆDZʐÄ Ǧ3ÄÄţä ÛğÄşÀÄȶŸöä ȸŋ ŌÆŸÖöä 3ŋ ğÀDZÊÄţä ȸŋ ɄèÀèǗ ŌÒÎǽ ɄŁ ǦəÀìÄöä · ƘQÆÔ1äş äØŁ Ž ÄΤŢÀÄŋ ÏǤöÀɖ ·ǦȞÀǨÄŋ åäÆȓɟä ğäøÀÆ3ş (ƙŋşƎÆŸö ǦÆǤŸè ǦäÀDzQèä) ǦǤÀɖ ǦÄʐŸ1ä ·ǦÆŋäØDZ gÆÕ3 ɁŋÀƥ ،ŌÒÎöä ɄəÀÄ Ž Äȶõ Ûôäţä ȸŋ ŌÒÎöä

ÛǦÄÀÄÊöä ÄŢÄöä ǦΤDZş ȸŋ 8Äõ ŌÒÎǽ ÏʐÄȞŋ Ƙɖ ÿäØɛä ȸŋ åÆɟä Ƙɖ ŌÒÎöä ȯäå Äŋ ğäæş ŋǤÔQöä ǦÔęÄφş ǦȞÛÊŋ ɃşɟäǦÄÆŸɛä ğÀʐɇä · ôÄţä ȸŋ ǦÆöşǗ ǦöÄǵ ƎQȞÄ ʐŁş şǗ ɄøφøÆöä ÿäØɛä ɃǗ øʐÛQÄ Äę Ȼφüʐ Ƃşɟä ŌÒÎöä äØŁ ʐÀȞÄ Ɓ äæǗ ·ǦŸQȞŋ gåÆŢ 8äʐǵ

[illegible]

[illegible] scrapings

[illegible] (41) [illegible]

[illegible] *Paucibacillary* [illegible] .1

[illegible] tuberculoid (T) [illegible] indeterminate (I) [illegible]
Polar tabrculoid (TT) [illegible] indeterminate (I) [illegible]
Ridley and [illegible] Borderline tuberculoid (BT)) [illegible]
[illegible] 2 > [illegible] Jopling
[illegible] Ridley [illegible]

Lepromatous (L) [illegible] *Multibacillary* [illegible] .2
[illegible] borderline (B) [illegible]
[illegible] borderline lepromatous (BL) [illegible] Lepromatous
[illegible] Ridley and Jpoling [illegible]
[illegible] Ridley [illegible] 2≤ [illegible]

[illegible]

[illegible] (*Dusypus novemcinctus*) [illegible]

[illegible] Kupffer [illegible] °35-°30 [illegible] [22] [illegible] [12] [illegible] 12 [illegible] [24] [illegible]

[illegible] *Cercocebus* [illegible] 16 [illegible] Ridley and Jopling [illegible] [30] [illegible]

·*ǦĔŋǟØɛǟ ǥÀÛÀǬȶŸõ* ɄÊĔǝÀöǟ ţåẓǪÊţǟ ẓŁ ȷÀÊɸqǟ ƎǬȞÀ ·̇ȯÀÕǬɸɼǟ ǟÀùş ʔşÆȞöǟ øÆÔŋ ·̇Õöǣ ʒŋş ·ÆÀÆţǟ ǦɸÀȒΣǟ øşǻ ÆĢÊǣ Õöǣş ǺÆĔǱ Ǧẓ şÀȞŋ Ƙɖ ȯÀÕǬɸɼǟ ǦÕÀÀù Ǩöǟǟ Àŋ ȽȚÀÆö ʔşÆȞöǟ ȷẓȮǨ ȸÀØöǟ ÿǟØɛÀǣ ȷẓǟÀÔţǟ ʔȓÀţǟ ẓŁ ʔşÆȞŸö ɄÊĔǝÀöǟ øÆÔţǟ ȷǕ ÆÕǬȞÀ ·Ƶɸɟǟ ȸŋ ǳẓÀÛɫ ğÀĔÔȞöǟ ȸŋ ƘĢõ åÆʒş ǺĢöÀɖ ǦĔǥÀę ǦÀÆŸɛǟ ğÀẓǿǟş ğÀĔÔȞöǟ ǥåÆȞǬŋ ȸʒ ȯÀÕǬɸɼǟ ȷẓȮÀ Æę ·̇Õöǣ ʔŸʒ ǿÀÀǣş ·ÿẓȞŸĢöǟş ȽÀöǟ Ž ğÀĔÔȞöǟ ÆǱǟẓǬǨ ȼǟÀÎŋ ŌȮÎǣş ǺĔöÀǥ·ǳẓşÀǱ şǕ ğÀǲȞè õÀÀŁ ȷÀõ ǟǣǕ ǦòÀǹş ÛʔşÆȞöÀǣ ǡÀÔţǟ ÆŸɛǟ ʒŋ ǡÀȶǬöǟ ĘÀÀù ƙǟÀÔţǟ ʔȓÀȶŸö ǦĔÀɸɟǟ ğǟǟÀẓɼǟ ɃẓǬƠ ·aerosol ǡẓĢȒöÀǣ ȯÀÕǬɸŸö ǦòÀǹ ǦĔƵǕ ÆÊÀǨ *ğǟÀÛÀǬţǟ* ʔÕǦǨ Æę ·̇ÕöØö ǦẓÀȓqÀǣ ·ǺĢÀÀÕǨ ÀǬö ɄŸĔŋ Ōõ Ž ǦĔÔʒ ȷẓŸŋ 100 ʔŸʒ ÿǟØɛÀǣ ÀǹǕ ǺÕÀÀù ÿɟǟ (ÆĔŸǥ) Əö ȷẓȮÀ ȷǕ ȸȮɀ ·ǺĢÀÀÕǨ ÿÀÀǕ 7 ǥÆŋ ǦẓÀɛǟ ğǟǟÀẓqǟ Ž *ǦĔŋǟØɛǟ* ɼ ·(8) ğÀĔÔȞöǟ ȸŋ ǥƘĢõ ǦĔȶõ ʔŸʒ ÿǟØɛÀǣ ǦǟÀÔţǟ ÿɟǟ ÆĔŸǥ ɃẓǬʒ ǬĔǥ ÛȯÀÕǬɸŸö ÿÆöǟ ǦȞöÀǣ ŌǱØɟǟ ǦĔŸÔÀţǟ ğÀɸǟẓĔΣǟ ĘÀÀù ȸʒ ȯÀÕǬɸɼǟş ɃẓȶÀöǟ ȯÀÕǬɸɼǟ åÀȞĢǬèǟ ȸȮɀ ·ŌęǕ ǦĔǝÀǣş ǦĔƵǕ ğǟǣ ƎǬȞǨ ÀȚÀȮö

ɄøǬöǟ ǫÀɯɟǟ ȸȮö ·ɃÀÔǥ ŌȮÎǣ ǺÀÀÎǣ ǺȓÀŋ ÆÀÀę Ǩęş ʔøǬǥ ÿǟØɛǟ Ǝǥʒǟ ğÀɸǟẓĔΣǟ Ž ɄȞĔĢù ŌȮÎǣ ȷÀǬÆʒ ȏÀţǟş ʔşÆȞöǟ ȷǕ ğÀȚşǕ ǥƘǹɟǟ ğǟẓÀÊöǟ Ž ǨÀÀǱǕ ğÀɸǟẓĔΣǟ ʔşÆʒ ȷǕ Ž Õì ȽȚÀÆö ȷÀõ (21) ƙǰǥÀĢöǟ ȒȞǣ ȷǕ ȸŋ ȽɖÀöÀǣş ·ǺȒÀǕ ǦÀƎöǟ ·ȼÊÀɸ ẓŁ ɄøĢĢÊöǟ ŌŋÀȞöǟ ȷǕ ğÀȚşǕ ǦȶõǟÀǬţǟ ǦÀĔĢöǟ ȷǕẓ ȷÀÊɸqǟ Ž ɄøǬöǟ ÕŸǬö ǦŸĔǰŋ ÀŒǕ ʔŸʒ ğÀɸǟẓĔΣǟ Ž ǦÀẓÔȞöǟ ȣǟÀȞǬèǟ ŌǱǕ ȸŋ (3) ǨŋÆÅǬèǟ ɄøǬöǟ ƘÀȞţǟ ǨɸÀõ ·̇ƃÀǬöǟ ŌȮÎöǟ ʔŸʒ ɄŁ *ǦĔŋǟØɛǟ ǥÀÛÀǬţǟ*

Ǧẓ şÀȞţǟ ǥÆĔǥẓöǟ ǥÀÛÀǬţǟ ȷǕ øÀĢǬʒÀǣ ǦÀẓÔȞöǟ ŌĢę ȸŋ ǦĔÛĔǂǟ ǡÀÔʒǬö ɄǝÀÕǬǟ şÀɖ ·[1] *ǦĔŋǟØɛǟ ǥÀÛÀǬţǟ* ẓɏ ŌÎẓ ·[2] ·*ǦĔŋǟØɛǟ ǥÀÛÀǬţǟ* ɄŁ ǡÀÔʒɟǟ şÀȢǣ ÿẓÕǨ ɄøǬöǟ ȷǿǟ ʔøǬǥ ȸÀÆÀƎöǟ øÀĢǬǹǟ ǦĔǣÀƶǕ ·[3] ·ğǟÀÛÀǬţǟ ŌǱǕ ȸŋ ǦŋÆÅǬÊţǟ ǦȞǝÀÎöǟ ǦÀƎǬÅţǟ ɼÀèşɟǟ ʔŸʒ øǕÀŸö ǦĔŋÆÕöǟ ÆǝÀèẓöǟ Ž ÂĔȶţǟ ÀǬÀȮǬöǟ ·[5] ·ÀǣşÆöǟ øÀĢǬǹǟ ǦĔǣÀƶǕ ·[4] ·ȐȶΣǟ åẓȶò Ǧöǟǟq ƙŋşƎĔŸöǟ ʒŋ ǦɸøÀÕŋ ǦĔɸǟẓĔΣǟ ğÀĔÔȞöÀǣ ÀȒǂǟ ƙŋşƎĔŸöǟ øÀĢǬǹǟ ǦĔǣÀƶǕ ·[6] ·ţøÆţǟ Žş ·ɃøÀĔȞţǟ

ǛÕǬŸǨ ğÀʒøÆţǟ ȷǕ ƙÀöǔţǟ ȒȞǣ ÆÕǬȞÀ ·ȣşÀȞŋ Ƙɖ ğÀɸǟẓĔΣǟ Ž ʔşÆȞöǟ ǕÎÀŋ ȷǕ

[illegible] Ziehl-Neelsen [illegible]

[illegible] .Fite-Furaco [illegible] .(11)

[illegible] Mitsuda [illegible] 28 [illegible]

.Mitsuda [illegible]

[illegible] .(17) [illegible]

[illegible] PGL-1 [illegible] ELISA [illegible]

.(17)

epitope (4)

.(5) PGL-1

Dapson

Rifampicin

Clofazimine

3.7 1986 5.4

.1990

1992

Rifampisin

Ofloxacin .Ofloxacin

.(43)

## ǙøǗƐƥøǅǁƐ


Amezcua, M.E., A. Escobar-Gutierrez, E.E. Storrs, *et al.* Wild Mexican armadillo with leprosy-like infection [letter]. *Int J Lepr Other Mycobact Dis* 52:254–255, 1984.

Bechelli, L.M., V. Martínez Domínguez. Further information on the leprosy problem in the world. *Bull World Health Organ* 46:523–536, 1972. Cited in: Bullock, W.E. *Mycobacterium leprae* (Leprosy). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Binford, C.H., W.M. Meyers, G.P. Walsh. Leprosy. *JAMA* 247:2283–2292, 1982.

Binford, C.H., W.M. Meyers, G.P. Walsh, E.E. Storrs, H.L. Brown. Naturally acquired leprosy-like disease in the nine-banded armadillo (*Dasypus novemcinctus*): Histopathologic and microbiologic studies of tissues. *J Reticuloendothel Soc* 22:377–388, 1977.

Brett, S.J., S.N. Payne, J. Gigg, *et al.* Use of synthetic glycoconjugates containing the *Mycobacterium leprae* specific and immunodominant epitope of phenolic glycolipid I in the serology of leprosy. *Clin Experim Immunol* 64:476–483, 1986.

Brubaker, M. Leprosy Control in the Americas. Part I: General Considerations. *In*: Bolivar's Bicentennial Seminar on Leprosy Control: Report: Caracas 12–14 September 1983. Pan American Health Organization, 1983. (PNSP/84–05).

Bullock, W.E. Leprosy (Hansen's disease). *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: W.B. Saunders; 1982.

Bullock, W.E. *Mycobacterium leprae* (Leprosy). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Burgess, P.J., P.E. Fine, J.M. Ponnighaus, C. Draper. Serological tests in leprosy. The sensitivity, specificity and predictive value of ELISA tests based on phenolic glycolipid antigens, and the implications for their use in epidemiological studies. *Epidemiol Infect* 101:159–171, 1988.

Clark, K.A., S.H. Kim, L.F. Boening, *et al.* Leprosy in armadillos (*Dasypus novemcinctus*) from Texas. *J Wildl Dis* 220–224, 1987.

Convit, J., M.E. Pinardi. A simple method for the differentiation of *Mycobacterium leprae* from other mycobacteria through routine staining technics. *Int J Lepr Other Mycobact Dis* 40:130–132, 1972.

Donham, K.J., J.R. Leininger. Spontaneous leprosy-like disease in a chimpanzee. *J Infect Dis* 136:132–136, 1977.

Filice, G.A., R.N. Greenberg, D.W. Fraser. Lack of observed association between armadillo contact and leprosy in humans. *Am J Trop Med Hyg* 26:137–139, 1977.

Fine, P.E. Leprosy: The epidemiology of a slow bacterium. *Epidemiol Rev* 4:161–188, 1982.

Freiberger, H.F., H.H. Fudenberg. An appetite for armadillo. *Hosp Practice* 16:137–144, 1981.

Howerth, E.W., D.E. Stallknecht, W.R. Davidson, E.J. Wentworth. Survey for leprosy in nine-banded armadillos (*Dasypus novemcinctus*) from the southeastern United States. *J Wildl Dis* 26:112–115, 1990.

Jacobson, R.R. Leprosy. *In*: Evans, A.S., P.S. Brachman, eds. *Bacterial Infections of Humans*. 2nd ed. New York: Plenum; 1991.

Job, C.K., E.B. Harris, J.L. Allen, R.C. Hastings. A random survey of leprosy in wild nine-banded armadillos in Louisiana. *Int J Lepr Other Mycobact Dis* 54:453–457, 1986a.

Job, C.K., E.B. Harris, J.L. Allen, R.C. Hastings. Thorns in armadillo ears and noses and their role in the transmission of leprosy. *Arch Pathol Lab Med* 110:1025–1028, 1986b.

Job, C.K., R.M. Sánchez, R.C. Hastings. Manifestations of experimental leprosy in the armadillo. *Am J Trop Med Hyg* 34:151–161, 1985.

Kirchheimer, W.F. Leprosy (Hansen's Disease). *In*: Stoenner, H., W. Kaplan, M. Torten, eds. Vol I, Section A: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1979.

Kirchheimer, W.F., E.E. Storrs, C.H. Binford. Attempts to establish the armadillo (*Dasypus novemcinctus Linn*) as model for the study of leprosy. II. Histopathologic and bacteriologic post-mortem findings in lepromatoid leprosy in the armadillo. *Int J Lepr Other Mycobact Dis* 40:229–242, 1972.

Leininger, J.R., K.J. Donham, W.M. Meyers. Leprosy in a chimpanzee. Postmortem lesions. *Int J Lepr Other Mycobact Dis* 48:414–421, 1980.

Leininger, J.R., K.J. Donham, M.J. Rubino. Leprosy in a chimpanzee. Morphology of the skin lesions and characterization of the organism. *Vet Pathol* 15:339–346, 1978.

Lumpkin III, L.R., G.F. Cox, J.E. Wolf, Jr. Leprosy in five armadillo handlers. *J Am Acad Dermatol* 9:899–903, 1983.

Martin, L.N., B.J. Gormus, R.H. Wolf, G.P. Walsh, W.M. Meyers, C.H. Binford, *et al.* Experimental leprosy in nonhuman primates. *Adv Vet Sci Comp Med* 28:201–236, 1984.

Meyers, W.M., G.P. Walsh, C.H. Binford, H.L. Brown, R.H. Wolf, B.J. Gormus, *et al.* Multibacillar leprosy in unaltered hosts, with emphasis on armadillos and monkeys [abstract]. *Int J Lepr Other Mycobact Dis* 50:584–585, 1982.

Meyers, W.M., G.P. Walsh, C.H. Binford, R.H. Wolf, B.J. Gormus, L.N. Martin, *et al.* Models of multibacillary leprosy in unaltered hosts: Current Status. *In*: Bolivar's Bicentennial Seminar on Leprosy Control: Report: Caracas 12–14 September 1983. Pan American Health Organization, 1983. (PNSP/84–05).

Meyers, W.M., G.P. Walsh, H.L. Brown, C.H. Binford, P.J. Gerone, R.H. Wolf, *et al.* Leprosy in a mangabey monkey (*Cercocebus torquatus atys* "sooty" mangabey) [abstract]. *Int J Lepr Other Mycobact Dis* 49:500–502, 1981.

Meyers, W.M., G.P. Walsh, H.L. Brown, C.H. Binford, G.D. Imes, Jr., T.L. Hadfield, *et al.* Leprosy in a mangabey monkey—naturally acquired infection. *Int J Lepr Other Mycobct Dis* 53:1–14, 1985.

Meyers, W.M., G.P. Walsh, H.L. Brown, Y. Fukunishi, C.H. Binford, P.J. Gerone, *et al.* Naturally-acquired leprosy in a mangabey monkey (*Cercocebus* spp.) [summary]. *Int J Lepr Other Mycobact Dis* 48:495–496, 1980.

Noorden, S.K. Multidrug therapy (MDT) and leprosy control. *Indian J Lepr* 62:448–458, 1990.

Rastogi, N., C. Frehel, A. Ryter, H.L. David. Comparative ultrastructure of *Mycobacterium leprae* and *M. avium* grown in experimental hosts. *Ann Microbiol* 133:109–128, 1982.

Smith, J.H., D.S. Folse, E.G. Long, J.D. Christie, D.T. Crouse, M.E. Tewes, *et al.* Leprosy in wild armadillos (*Dasypus novemcinctus*) of the Texas Gulf Coast: Epidemiology and mycobacteriology. *J Reticuloendothel Soc* 34:75–88, 1983.

Stallknecht, D.E., R.W. Truman, M.E. Hugh-Jones, C.K. Job. Surveillance for naturally acquired leprosy in a nine-banded armadillo population. *J Wildl Dis* 23:308–310, 1987.

Toro-González, G., G. Román-Campos, L. Navarro de Román. *Leprosy: neurología tropical.* Bogotá: Printer Colombiana; 1983.

Truman, R.W., E.J. Shannon, H.V. Hagstad, *et al.* Evaluation of the origin of *Mycobacterium leprae* infections in the wild armadillo, *Dasypus novemcinctus*. *Am J Trop Med Hyg* 35:588–593, 1986.

Walsh, G.P., W.M. Meyers, C.H. Binford. Naturally acquired leprosy in the nine-banded armadillo: A decade of experience 1975–1985. *J Leukoc Biol* 40:645–656, 1986. Cited in: Howerth, E.W., D.E. Stallknecht, W.R. Davidson, E.J. Wentworth. Survey for leprosy in nine-banded armadillos (*Dasypus novemcinctus*) from the southeastern United States. *J Wildl Dis* 26:112–115, 1990.

Walsh, G.P., W.M. Meyers, C.H. Binford, P.J. Gerone, R.H. Wolf, J.R. Leininger. Leprosy—a zoonosis. *Lepr Rev* 52(Suppl.1):77–83, 1981.

Walsh, G.P., E.E. Storrs, W.M. Meyers, C.H. Binford. Naturally acquired leprosy-like disease in the nine-banded armadillo (*Dasypus novemcinctus*): Recent epizootiologic findings. *J Reticuloendothel Soc* 22:363–367, 1977.

World Health Organization (WHO). *Epidemiology of leprosy in relation to control. Report of a WHO Study Group*. Geneva: WHO, 1985. (Technical Report Series 716).

World Health Organization (WHO). *WHO Expert Committee on Leprosy, Sixth Report*. Geneva: WHO; 1988. (Technical Report Series 768).

World Health Organization (WHO). Trials begin of new treatment for leprosy—disease could be conquered [press release]. Geneva: WHO; 3 February 1992. (Press Release WHO 5).

World Health Organization (WHO). Progress towards the elimination of leprosy as a public health problem. *Wkly Epidemiol Rec* 68(25):181–186, 1993.

Young, D.B., T.M. Buchanan. A serological test for leprosy with a glycolipid specific for *Mycobacterium leprae*. *Science* 221:1057–1059, 1983.

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## LEPTOSPIROSIS ŀƑĪĎŽĭƥĞǁƐ ƀƐǭ

DžDž ǌƥǬŮƐ üƑŀ ƚŮƐ A27.8 ÜĬ øǆƑƽƥĭǁƐ Ĭȥ₨ǁƐ ŀƑĪĎŽĭƥĞǁƐ ƀƐǭ ICD-10 A27.0

ŀƑĪĎŽĭƥĞǁƐ ƀƐǭ

**ICD-10 A27.0 leptospirosis icterohaemorrhagica**
**A27.8 other forms of leptospirosis**

ÆÔŐǟ ʒüÀę ʔƥ ˒ǟÀǟ ǒɀŐǥ ʔƥ ˒ÀÂøÀƚǟ ʒǢÛę ǒ Àŋ Û"Weil ŌÀɀ ŏǟǻ ˑǧÀɀǻǟÀʈǟ ÛStuttgart ǧǿÀ8ǩɀǫì ŏǟǻ ˑŎʒŋ ʔÀǹÜ ĞǢŤŢ ŏÀƨÜş "ƙÛǟ ʔƥ ˒ǧÀĤŌÀǫÊʈǟ ʔƥ cane ·(ǟ¥ÒŸ) Canicola ʔÀĤÎǟ ʔƥ

ÀT Ğǵɀǫ Àŋ ǧÀÀŒş ƟøǫşÀŸǥ ŌÒì ǧǟǣ ǕǬǟÀDZ Leptospires ǧÀƐɛƎǟ ˑǧÀƐĜÊǟ 20-6 ÀTɀü ʤşǟÀǫÀ ·ţøÂŸ ĞŸǟÀęş (ƙDzÊŐǰÀ ĞìÀǫĤŋ) ĞƐǟɀǢǥ ĞŐÀĦǫŋ Û(8ÀÛǹ) ǥøÀÀŏ

[illegible] 0.1 [illegible]
[illegible] *L. biflexa* [illegible] *L.interrogans* [illegible]

[illegible] serovars [illegible] 200
[illegible] 23 [illegible]
[illegible] (1) (16) [illegible]
(29) [illegible]

[illegible] *icterohaemorrhagiae* [illegible]
[illegible] *canicola*
[illegible]

[illegible]

[illegible]
(1) [illegible] 160 [illegible]

Pomona

Canicola

63

10-7

Severity

(Weil's disease)

%10

Weil

[illegible] influenza.

[illegible] Amoxicilline [illegible] Penicelline G
.(4)

[illegible]

[illegible] 13 [illegible] *grippotyphosa*، *hardjo*، *Pomona* [illegible] *Canicola* [illegible] *hardjo*، *Pomona* [illegible] Hebdomadis [illegible] (Bataviae [illegible]) *Paidjan* [illegible] *galtoni* [illegible] .(44)، (42) [illegible] (*Canicola* [illegible]

[illegible]

[illegible] 5 [illegible] 4 [illegible]

hardjo [1] (Sejroe) hardjo [2]

hardjo

(14) (30)

hardjo hardjo-prajitno hardjo hardjo-bovins

%20

morbidity

Tetracycline Penicilline G

12.5) dihydrostreptomycin

ǨȒǍǗ Ǧǵ ǍǪǑţä ğǍɀǍȞţä ȸɳ ·ǦȺǍǑöä ȼǬǪƨ ǼǤÊǣ Ȭöæş Ǭ ǒǍǰöä ȳɀǬöä ǼȞǣ ȼǣ ǦɀǍȞţä ʅÊɀä ȷäş ȸɳ ȵõ/ȵȲȵ 20) ɄȲȒȞöä Ōǹ ǟǼöä ȸŐ ΣǍǣ Sodium ampicilline ƙȲǬÊǬǤȵɍä ȷǗ ǗøǍǑǪȵ ŌǑÎæş ǗǦȑşǗ *ǦǬɀȵɀǦǞ* ȸɜ ʅǱǍǍöä ȸȵÂţä ôǍȶȲö ǦǤÊǍǑǍǣ ·( ȳɀǬöǍǣ ƙǨǍȵ 25) dihydrostreptomycin ƙÊǬȵɀǪǤǍǪèşøǼǬȚǍǟǼöä ȸȵ ǵǼǬǵş ǦɜǍɀ ɄȲȒȞöä ȸŐ Σä ȸǑö ·ǦǱǍǍȞţä ğǍǬǟɀǬΣä ʅȚȞȵ ʔǼö ƙǬǬǑöä ȸȵ ʔşǼȞöä ŌǍÂǍ (ʅÊɀä ȷäş ȸɳ ȵõ/ȵȲȵ ğǍǬɀƎöä åäǼɜǗ Ǒę ǍǨ ʅɖø *hardjo* ȸɜ ǦƤǍǍöä ʔşǼȞöä ğɍǍǵ Ž ŌÎǍǨ ǦɀǍȞţä ȻØȽ (13) ·ǨǍǍȽǍş

ȸǍȞöä ǦǬŐæş ǍǑǍǍȵǗ Ž ǍǍäǍǍʅä ȸȵ ğåǍǍǪèä ɄøǪöä ǦǬȲÔţä āşǍȒöä ǼȲɖǗ ⁚þøǐȐǫǭǁǀ *ǦǬǍęǨöǞ ǗCunicola ʔǍȞÎöǞ Ǘgrippotyphosa Ǘtarrassovi ǗPomona ǦǬɀȵɀǦǞ* ⁚ɄȽ ǦǬȲÔţä ǦɜɀȶŐä ȸȵ *muenchen*ş *bratislava БǗ ǦɀǍȑɋǍǣ icterohemorrhagica ǦǬɀƕöǞ* ·ǦǬöǍǍǪèɍä

ǦöɀǛȵ ğǍǬɀǍǣ ǦȲǬǣ ɜȵ Ęɀ ǍǍǪǨ Ǭǵ ǗǦǬɀȵɀǦȲö ǦǤÊǍǑǍǣ ǨǼǱ ǨȵǍȽ Ǩɜåɀ ǪÊȵ ǍǍäǍǍʅä ƎǪȞǨ ŌǑÎǣ ʔşǼȞöä ǫǼƠ ğɍǍΣä ȒȞǣ Ž ·ǍȵǾ ɜǬǛę ȸȵ ǦǍǍǍÊöä ʔşǼȞöä ţɀǍǪǨ ·ǵǍǍɖş ǫǼƠ ʔǍȵǗ ğǍǬǟɀǬǵ Ž ·ǦȲǬȲę ȳǍǍǗ ǍȶǪÊǨ ʔȶШ ğǍǬǟɀǬΣä ǦǟǍöǗ ʅɖø ɃǍǍǍè ǨƠ ǦÔǍȵɉä ȻØȽ ȷǗ Şǵɀö ǍȶŐ ǗǦǍǬȞȑ ǦÔǍȵǗ ǵåɍşş ôǍȚǱɋä Ōǰȵ ǨȑäǍɜǗ ʔşǼȞöä ğǍǟǍǛȑɍäş ğǍǱƳǪȵɍäş ǦǬǍǬǣɀȲɖɀȶǬȚä ǦȲǬǦöäş ȷǍęǨöäş ɀȶǍöä Ʒęɀǩ ȸȵ ɄøǍǍȞǨ ǨȞǦǑǗ ôǍȚǱɋä ǫǼɜ ·ǦǬǦÔȞöä ôäǍɜɉäş ǍǍȞƄÊöä āǍȚǪöä ǫǼɜ ǨęɀöäøşǍȵş ·ǦǍɀȞţä ǦǍǼȞţä *Tarrassov*ş *ǦǬɀȵɀǦǞ* ȸȵ Ōõ ƎǪȞǨ ·ʔşǼȞǑǍǣ ǦǟǍǑɋä ǼȞǣ 30 ȳɀǬöä БǗ 15 ȳɀǬöä ƙǣǍȵ ǵåǍɜ ǦÔǍȵǗ ǵåɍşş ğǍȑǍȚǱɋä ǼǤÊǨ ɄøǪöä ǦǬÊǬǟǍöä ǦǬȲÔţä āşǍȒöä *canicola ʔǍȞÎöǞş* ·ŌȶΣä ɜǛę Ž ǨǱǍǵ ǍǰõɉäɄȽ ŌȶΣä ȸȵ Ƙȵɉä ǬȲǰöä Ž ǫǼƠ Ʉø ǪÖä ʔşǼȞöä ·ǦÔǬȲȵ ŌǬǤÊöä Žş ƙǬǬǑöä Ž *muenchen*ş *bratislava* ǦǬȲÔţä āşǍȒöä ğäæ ğǍǬɀƎöä ɜȑɀǪǨ öäǍǱǛöǣ ǴÔǍǍ ⁚ǦǬìǍţä Ž ǍȶõşⁱǦǬìǍţä Ž *hardjo* øǣ ğǍǬɀƎöä öäå ȬöØǣ ǦȲǪǍƞ ɄȲèǍǍǪöä ȷäş ȸɳ ȵõ/ȵȲȵ 25) dihydrostreptomycin ƙÊǬȵɀǪǤǍǪèşøǼǬȚǍǟǼȲö ɄȲȒɜ ǼǬǵş ȸŐǵ ·*ǦǬɀȵɀǦǞ* ȸɜ ǦƤǍǍöä ǦȺȵÂţä ʔşǟǼȞȲö ǦǤÊǍǑǍǣ Ȭöæş (ʅÊɀä

[illegible] *hardjo* [illegible] *canicola* [illegible] *sejroe* [illegible] (33) [illegible]

(6) [illegible]

[illegible] (28) [illegible]

[illegible] Minnesota [illegible] 100 [illegible] *Pomona* [illegible] (33) [illegible]

[illegible]

[illegible] pomona [illegible] hardjo [illegible] ballum [illegible] grippotyphosa [illegible] hardjo [illegible] (11) [illegible] .hardjo [illegible]

[illegible] tarrasovi [illegible] paidjan [illegible] Pyrogenes [illegible] Canocola [illegible] grippotyphosa [illegible] ballum [illegible] (27) [illegible] bratislava Pomona [illegible] 4-3 [illegible] Canicola [illegible] .%10

[illegible] (12 [illegible]

[illegible] Canicola [illegible] 181 [illegible] 102 [illegible] 1970 [illegible] 1966 [illegible] 21 [illegible] (39) [illegible] Australis [illegible] Pomona [illegible]

ranches [illegible]

[illegible] 7-6 [illegible]

[illegible]

[illegible]

[illegible] (MAT) Microscopic Agglutinatiom Test [illegible] 3-2 [illegible]

[illegible] (The macroscopic plate test) [illegible]

[illegible]

[illegible] genus specific test [illegible] Patoc [illegible] (24) [illegible] (16) [illegible] (IgG [illegible] IgM) [illegible] (ElISA) [illegible] IgG [illegible] IgM [illegible] IgG [illegible]

[illegible] hardjo [illegible] 10 [illegible] 25 [illegible] %90 [illegible] (5) %1 [illegible]

[illegible] subserovar [illegible] hardjo [illegible] DNA [illegible] hardjo genotype prajinto [illegible] Hardjo genotype hardjo bovis [illegible] LeFebrreb [illegible] 1987.

[illegible] Hardjo genotype hardjo bovis [illegible] 3 [illegible] 75 [illegible] 60 [illegible] DNA [illegible] 1. [illegible] 24 [illegible] 2. [illegible] 3. [illegible] 13 [illegible] hardjo-bovis (8). [illegible]

PCR (25) .10

.1 .3 .2 .5 .4 .7 .6 .8

(32)

doxycycline (43)

Panama doxycycline double – blind field 940 doxycycline 200 20 3 placebo (%4.2 attack rate (%0.2 doxycycline (43) %95 (31)

[illegible] %5 [illegible]

[illegible] *hardjo* [illegible] Pomona [illegible] Pomona [illegible] *grippotyphosa* [illegible] *Canicola* [illegible] 4-3 [illegible] revaccination [illegible] 6 [illegible] (45) [illegible]

hardjo- [illegible] *hardjo* [illegible] (7) [illegible] (9) [illegible] bovis

[illegible] IgM [illegible] IgG [illegible] IgG [illegible] IgM [illegible]

[illegible]

[illegible] 25 [illegible] dihydrostreptomicin [illegible] *Pomona* [illegible]

[illegible]

Alexander, A.D. Leptospira. *In:* Balows, A., W.J. Hausler, K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology.* 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Alexander, A.D., W.E. Gochenour, Jr., K.R. Reinhard, M.K. Ward, R.H. Yagen. Leptospirosis. *In:* Bodily, H.L., ed. *Diagnostic Procedures for Bacterial, Mycotic and Parasitic Infections.* 5th ed. New York: American Public Health Association, 1970.

Alston, J.M., J.C. Broom. *Leptospirosis in Man and Animals.* Edinburgh, London: Livingstone; 1958.

Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bercovich, Z., R. Taaijke, B.A. Bokhout. Evaluation of an ELISA for the diagnosis of experimentally induced and naturally occurring *Leptospira hardjo* infections in cattle. *Vet Microbiol* 21:255–262, 1990.

Bernard, W.V., C. Bolin, T. Riddle, *et al.* Leptospiral abortion and leptospiruria in horses from the same farm. *J Am Vet Med Assoc* 202:1285–1286, 1993.

Bolin, C.A., J.A. Cassells, R.L. Zuerner, G. Trueba. Effect of vaccination with a monovalent *Leptospira interrogans* serovar *hardjo* type hardjo-bovis vaccine on type hardjo-bovis infection of cattle. *Am J Vet Res* 52:1639–1643, 1991.

Bolin, C.A., R.L. Zuerner, G. Trueba. Comparison of three techniques to detect *Leptospira interrogans* serovar *hardjo* type hardjo-bovis in bovine urine. *Am J Vet Res* 50:1001–1003, 1989a.

Bolin, C.A., R.L. Zuerner, G. Trueba. Effect of vaccination with a pentavalent leptospiral vaccine containing *Leptospira interrogans* serovar *hardjo* type hardjo-bovis on type hardjo-bovis infection in cattle. *Am J Vet Res* 50:2004–2008, 1989b.

Cacchione, R.A. Enfoques de los estudios de la leptospirosis humana y animal en América Latina. *Rev Asoc Argent Microbiol* 5:36–53, 100–111, 143–154, 1973.

Cousins, D.V., T.M. Ellis, J. Parkinson, C.H. McGlashan. Evidence for sheep as a maintenance host for *Leptospira interrogans* serovar *hardjo*. *Vet Rec* 124:123–124, 1989.

Diesch, S.L., H.C. Ellinghausen. Leptospiroses. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Ellis, W.A., J. Montgomery, J.A. Cassells. Dihydrostreptomycin treatment of bovine carriers of *Leptospira interrogans* serovar *hardjo*. *Res Vet Sci* 39:292–295, 1985.

Ellis, W.A., A.B. Thiermann. Isolation of leptospires from the genital tracts of Iowa cows. *Am J Vet Res* 47:1694–1696, 1986.

Everard, C.O., A.E. Green, J.W. Glosser. Leptospirosis in Trinidad and Grenada, with special reference to the mongoose. *Trans Roy Soc Trop Med Hyg* 70:57–61, 1976.

Faine, S., ed. Guidelines for the control of leptospirosis. Geneva: World Health Organization; 1982. (Offset Publication 67).

Faine, S. Leptospirosis. *In*: Evans, A.S., P.S. Brachman, eds. *Bacterial Infections of Humans*. 2nd ed. New York: Plenum Medical Book Co.; 1991.

Hanson, L.E., D.N. Tripathy, A.H. Killinger. Current status of leptospirosis immunization in swine and cattle. *J Am Vet Med Assoc* 161:1235–1243, 1972.

Hart, R.J., J. Gallagher, S. Waitkins. An outbreak of leptospirosis in cattle and man. *Brit Med J (Clin Res Ed)* 288(6435):1983–1984, 1984.

LeFebvre, R.B. DNA probe for detection of the *Leptospira interrogans* serovar *hardjo* genotype hardjo-bovis. *J Clin Microbiol* 25:2236–2238, 1987.

Leptospirosis in man, British Isles, 1983. *Br Med J (Clin Res Ed)* 288(6435):1984–1985, 1984.

Luzzi, G.A., L.M. Milne, S.A. Waitkins. Rat-bite acquired leptospirosis. *J Infect* 15:57–60, 1987.

Mazzonelli, J. Advances in bovine leptospirosis. *Bull Off Int Epizoot* 3:775–808, 1984.

Mazzonelli, J., G.T. Dorta de Mazzonelli, M. Mailloux. Possibilité de diagnostique sérologique des leptospires à l'aide d'un antigène unique. *Med Mal Infect* 4:253, 1974.

Mérien, F., P. Amouriaux, P. Perolat, *et al*. Polymerase chain reaction for detection of *Leptospira* spp. in clinical samples. *J Clin Microbiol* 30:2219–2224, 1992.

Myers, D.M. Serological studies and isolations of serotype *hardjo* and *Leptospira biflexa* strains from horses of Argentina. *J Clin Microbiol* 3:548–555, 1976.

Nielsen, J.N., G.K. Cochran, J.A. Cassells, L.E. Hanson. *Leptospira interrogans* serovar *bratislava* infection in two dogs. *J Am Vet Med Assoc* 199:351–352, 1991.

Parma, A.E., C.G. Santisteban, A.S. Fernández, *et al*. Relación antigénica entre *Leptospira interrogans*, cristalino y córnea equina, probada por enzimoinmunoensayo. *Rev Med Vet* 67:72–76, 1986.

Perolat, P., F. Grimont, F. Regnault, *et al*. rRNA gene restriction patterns of *Leptospira*: A molecular typing system. *Res Microbiol* 141:159–171, 1990.

Prescott, J. Treatment of leptospirosis [editorial]. *Cornell Vet* 81:7–12, 1991.

Sanford, J.P. Leptospirosis—time for a booster. *N Engl J Med* 310:524–525, 1984.

Shenberg, E., M. Torten. A new leptospiral vaccine for use in man. I. Development of a vaccine from *Leptospira* grown on a chemically defined medium. *J Infect Dis* 128:642–646, 1973.

Sillerud, C.L., R.F. Bey, M. Ball, S.I. Bistner. Serologic correlation of suspected *Leptospira interrogans* serovar *pomona*-induced uveitis in a group of horses. *J Am Vet Med Assoc* 191:1576–1578, 1987.

Songer, J.G., A.B. Thiermann. Leptospirosis. *J Am Vet Med Assoc* 193:1250–1254, 1988.

Spinu, I., V. Topcin, Trinh Thi Hang Quy, Vo Van Hung, Mguyen Sy Quoc, Chu Xnan Long, *et al.* L'homme comme réservoir de virus dans une épidémie de leptospirose survenue dans la jungle. *Arch Roum Path Exp* 22:1081–1100, 1963.

Stalheim, O.H. Vaccination against leptospirosis: Protection of hamsters and swine against renal leptospirosis by killed but intact gamma-irradiated or dihydrostreptomycin-exposed *Leptospira pomona*. *Am J Vet Res* 28:1671–1676, 1967.

Stalheim, O.H. Chemotherapy of renal leptospirosis in cattle. *Am J Vet Res* 30:1317–1323, 1969.

Stalheim, O.H. Duration of immunity in cattle in response to a viable, avirulent *Leptospira pomona* vaccine. *Am J Vet Res* 32:851–854, 1971.

Suárez Hernández, M., J. Bustelo Aguila, V. Gorgoy González, *et al.* Estudio epidemiológico de un brote de leptospirosis en bañistas en el poblado de Jicotea de la provincia Ciego de Ávila. *Rev Cubana Hig Epidemiol* 27:272–284, 1989.

Sulzer, C.R., W.L. Jones. *Leptospirosis Methods in Laboratory Diagnosis*. Atlanta: U.S. Centers for Disease Control and Prevention; 1974.

Szyfres, B. La leptospirosis como problema de salud humana y animal en América Latina y el área del Caribe. *In: VIII Reunión Interamericana sobre el Control de la Fiebre Aftosa y Otras Zoonosis*. Washington, D.C.: Organización Panamericana de la Salud; 1976. (Publicación Científica 316).

Szyfres, B., C.R. Sulzer, M.M. Galton. A new leptospiral serotype in the Bataviae serogroup from Argentina. *Trop Geogr Med* 19:344–346, 1967.

Takafuji, E.T., J.W. Kirkpatrick, R.N. Miller, *et al.* An efficacy trial of doxycycline chemoprophylaxis against leptospirosis. *N Engl J Med* 310:497–500, 1984.

Tedesco, L.F., G. Manrique, C.R. Sulzer. A new leptospiral serotype in the Canicola serogroup from Argentina. *Trop Geogr Med* 21:203–206, 1969.

Thiermann, A.B. Leptospirosis: Current developments and trends. *J Am Vet Med Assoc* 184:722–725, 1984.

Tripathy, D.N., A.R. Smith, L.E. Hanson. Immunoglobulins in cattle vaccinated with leptospiral bacterins. *Am J Vet Res* 36:1735–1736, 1975.

Van der Hoeden, J. Leptospirosis. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Waitkins, S.A. From the PHLS. Update on leptospirosis. *Brit Med J (Clin Res Ed)* 290(6480):1502–1503, 1985.

World Health Organization. Research needs in leptospirosis [memorandum]. *Bull World Health Organ* 47:113–122, 1972.

# LISTERIOSIS [illegible]

[illegible] ICD10 A32.1 [illegible] A32.8 ([illegible]) [illegible] A32.7 [illegible] ([illegible]) [illegible] P37.2 [illegible]

**ICD-10 A32.1 listerial meningitis and meningoencephalitis;**

**A32.7 listerial septicaemia; A32.8 other forms of listeriosis;**
**P37.2 neonatal (disseminated) listeriosis**

Listerellosis,) [illegible] circling [illegible] (Listeriasis

[illegible] *L.monocytogenes* [illegible] *L. bulgarica* [illegible]) *L. ivanovii* [illegible] 5 [illegible]

[illegible] 0.5 [illegible] 2-0.5 [illegible] °25-20 [illegible] 9-6 [illegible] °45-3 [illegible] (%92) [illegible] 11 [illegible] (4) 1/2a [illegible] 1/2b [illegible] 4b [illegible]

(14) [illegible]

[illegible] %33 [illegible] 161 [illegible]
[illegible] %4 [illegible] 1/2a [illegible] %30 [illegible] 1/2b [illegible] %31.5 [illegible] 4b [illegible]
.(15) 1/2c [illegible] %0.5 [illegible] 3a [illegible] %1 [illegible] 3b [illegible]
%50 [illegible] 7 [illegible] 71 [illegible]
(21) .1/2a [illegible] %29.6 [illegible] 4b [illegible]

[illegible]
[illegible]

[illegible] Phage typing [illegible]
[illegible] .electrophoretic enzyme typing [illegible]
[illegible] %78 [illegible] 28 [illegible] %64 [illegible]
[illegible] 20
[illegible]
[illegible] RNA [illegible] (48) [illegible]
[illegible]

[illegible]
[illegible]

[illegible]
[illegible]
[illegible]
[illegible] lookout [illegible]
[illegible] 1985-9169 [illegible] 296 [illegible]
[illegible] %50 [illegible] %60
[illegible] .(43) 4b [illegible]

ȸŋ ĬŸō ʔşÆĦōā ĸǟÀòǕ ·1985-1967 ɄŋÀȝ ƙǟ Àŋ ĶǫÆǵ ĞōÀǵ 722 ȸŋ ğÀŋⱬŸĦŋ ʔŸȝ ƙōşɟā ƙŋⱬĿōā ȯŸǹ ĞÀÆĿōⱬōā ʔşÆĦōā ĶÔÅł ·(%34) ĞōÀǵ 246 Ž ÆĿōⱬōā şǕ ƙÀƨāş ÿɟā 56 Ž ȝȑⱬōā ÆĦǟ ƙŋⱬÀ ȸŋ ÀǯōǕ ǵÀǹüǪŋ ĶÔÅȉ ÀŧÀĿǟ (%54) ĞōÀǵ 133 Ž ȝȑⱬōā ÆĦǟ 10 ĬȒÀǕ ōÀÀȽ ȷÀō ·ȴǵÀōā Ōǹāá ğⱬţā ȸŋ (%198) ĞōÀǵ 47 ōÀÀȽ ȷÀō·(%23) ĞōÀǵ ĞĶÀŋǭā ğɍÀǵ ƃÀƤǕ ȷÀō ·ƙÀƨā ĞǟÀòǕ ȷşá ÿÆōā ŻÀǱǪǟ ƟòǕ ǥÀƬŋɟ (%4) ğɍÀǵ ğɍÀΣā áÆȝ ȸŋ %50 ȸŋ ŌęǕ ȸŧȒǪǩ ȷǕ Æƶ ğÀĿÛĦţā ȻØȽ ȷǕ ⱫōüţāǿÆŌÀ ·(32) %50 ĞōÀǵ 275 :ƙȣōÀĞōāş ƙĦⱬÀĿōā ʔÆō ĞōÀǵ 474 ŌĿǱȄĚǩ Ź ·ÆŸĞōā Ž ĶǫÆǵ ɃØōā ƃÀƤǭā ĞĶÀŋǭā ğɍÀǵ ·ŌŋāⱬǵƘȡǿÀȄɸ ʔÆō ȷÀō (%42) ĞōÀǵ 199ş ȯÀǱⱫÀōā ʔÆō ĶɸÀō (%58) ğɍÀΣā ţⱬęş ǵáÀÀà ĶȚǵⱬō ·ĞÆĿⱬá ŌŸȝ ȴƬÀÆō ȷÀō ʔȑÀţā ŏɍúȽ ȸŋ %76, %44 ĶɸÀō (33) ·ⱫÀÀȴā ŌÔⱬ Ƀ

ƙǟ ǵÆĦǪţā ğÀÀɍⱬōā Ž ĞōÀǵ 800 øǟ ĞÀȄōā Ž ǫÆƠ ɄøǪōā ğɍÀΣā áÆȝ ÀÀÆŌǩ Ź Ōęɟā ʔŸȝ ǵÀⱬş ĞōÀǵ 150ş ÛȸüāⱬŋȷⱬĿŸŋ Ōō ƙǟ ĞōÀǵ 3.6 ţⱬęⱬǟ 1982-1980 ɄŋÀȝ Ōō ƙǟ ĞōÀǵ 4.7) ȷāÆōⱬōā ʔÆō ʔŸȝɟā āⱬÀōā ğɍÆĦŋ ğÆȽⱬȉ ·(%19 ĞĶÀŋǭā ğɍÀǵ) ƙǟ ĞōÀǵ 11) ÀǯōǕ şǕ ĞÀè 70 øÀŧȝɟā Ƀşǣ ȋÀÅȉǦā ʔÆō ŌōØōş (ĞĿǵ ǵáɍş 100.000 ĞÀáāÀⱬ ğɍÀǵ ğÆȽⱬȉ ·ĞĿŋÀÀōā ȷāÆŸĞōā Ž ğɍÀΣā ȸŋ ŌĿŸę áÆȝ ÀĿĿǭ Ź ·(14) (ȷⱬĿŸŋ Ōō ·ĞĿÀĿǨŸōā ÀȮÀÀŋǕ Ž ȷāÆŸǟ ǵÆȝ Ž

ȝĿƤ ʔŸȝ ÀƬȉǕ ǫŸǭ ǵÀǪⱬ ŏÀÀǭǕ Ƀⱬŋá ţøà ōāÀǱⱫǕ Ź :ĞĿȮĿȄȮţā ŻÀȊţā ÆǵǕ Ž ğáÀÀǪèā Æęş ·*ɃⱬĬȄōā ŌāÀȄōā* ʔşÆȝ ğÀŋŸȝ ȸÀÆĞÀ ȴőÀƬŋǕ ĶɸÀō ȸÀØōā ȯÀÀüɟā Ź :(19) şƘĞōā Ž ·(38) ȋⱬĦÀŋ ÆĿōş 33 ŌòǕ ȸŋ ȷāÆōş 4 ȸŋ *ǵÆǵⱬǪȄţā ĞÀÄǪȄĿŸōā* ŏāá ȸŋ ĞǪĿư ğɍÀǵ ĞǫŸǭ ȸŋ *ǵÆǵⱬǪȄţā ĞÀÄǪȄĿŸōā* ȸŋ 4bş 4d ɄŸÔţā āÀȒōā áāÀÀǪèā ȯⱬǵ ĞŸĿŸę ğÀĿÛĦŋ ÆǱⱬǩ :ƙǪÀǱⱫøɟā Ž ·ĞȒƬƒ ĞÀǱⱫǕ ĞȄȐ ȸŋş ɃÆĿōⱬōā ğÀÀÀǪȄĿŸōā ŏāá ȸŋ ğɍÀǵ ōÀÀȽ :ƙǪÀǱⱫøɟā Ž Àǣşáøⱬō Ž ·ȷÀȄɸǭā ʔÆō ğÀÀÀǪȄĿŸōā ŏāá ǫşÆǵ ĞĿǱⱬōⱬÀÀǪōÀĞōā ĞĿǵÀÀōā ȸŋ Æōüţā ȷÀǪɸǭā ȸŋ %3-2 ŌȮȊǩ ÛĞÀè Ōō ɃÆĿōⱬōā ğÀÀÀǪȄĿŸōā *ĞÀÄǪȄĿŸōā* (1981 ÿÀȝ) ⱬŸōşÂɸÀŋ áÀÀɨèā :āÀÀǕ ȄÀÀⱬǟ ĞĦùÀŌŋ Ž ǵƘȣò ĞÀÀÆŋ Ž ·(37) øÀŌǟɟā ÆŸƠ ĶɸÀō ǵǕÀŋɍ ĞĿŸĞƬŋ ĞĦȒɸ ȸŋş ɃÀŌǟ ƙÀǱ ȸŋ 1a ÙŧÀōā ğāǣ *ǵÆǵⱬǪȄţā*

[illegible] (1990 [illegible]) [illegible] 9 [illegible] 15 [illegible] (41) [illegible]

[illegible] 34 [illegible] 1981 [illegible] 7 [illegible] %27 [illegible] (at term) [illegible] 4b [illegible] (coleslaw) [illegible] °4 [illegible] (42) [illegible]

[illegible] 8 [illegible] 1979 [illegible] 15 [illegible] 20 [illegible]

[illegible] 1983 [illegible] 7 [illegible] 42 [illegible] 32 [illegible] %29 [illegible]

(45) [illegible] 4b [illegible] 40 [illegible] (27) [illegible] 1985 [illegible] %63 [illegible]

31 [illegible] 70-11 [illegible] 4b [illegible]
(45) [illegible]

[illegible] 58 [illegible] 64 [illegible] 1987 [illegible] %28 [illegible] 1992 [illegible] (14) 1985 [illegible] 4b [illegible] %40 [illegible] 691 [illegible] %61 [illegible] 91 [illegible] (1987-1985) [illegible] (1987-1983) [illegible] (1985) [illegible] 12 [illegible] 35 [illegible] 163 [illegible] 1992 [illegible] 23 [illegible] 18 [illegible] (55) [illegible] 22 [illegible] 63 [illegible] 1993 [illegible] 25 [illegible] 4 [illegible] 1992 [illegible] lysotype

[illegible] 4 [illegible] 25 [illegible] 21 [illegible] still births at term [illegible] (rillettes) [illegible] (*Bol Epidemiol Hebdom* No34, 1993) [illegible]

[illegible] AIDS [illegible]

[illegible] (45) [illegible] 300 [illegible] HIV

[illegible] poikilotherms [illegible] (alpacas [illegible]) [illegible]

[illegible] 1924 [illegible] 5 [illegible]

%39 [illegible] %50) [illegible] 50 [illegible] 18 [illegible] %2 [illegible] %0.15 [illegible]

.ill-full-term baby

50

%70

.ampicillin

8

.(2) Chloramphenicol

[illegible]

[illegible]

[illegible]

[illegible]

ÒĦʐ ɃÀDZÜ ·ÆŁäʐÎöä ÇäÀǪÌä Àȶȝ ȤĤȑ 1.6 øäÆÖɳ ÎÂŁÀDZ ÎɳÀĤü äȿÀǪÌä ȿÜ ÛÆŁäʐÎöä
Ōęɉä ʔÝȝ ÎÆǵäȿ ÎɳÀĤü Ƀʐ ǪƠ ǨɸÀõ 123 ŌòÜ ȸɳ (%64) 79 ȷÜ ÆDZȿȿ ʔȑÀȶä ğÀDZ¥ǭ
ǴÀóǾöä ğåÀÀǪèä ǴÕäÀÊöä ǴDZ¥ǭ 79 øöä ŌòÜ ȸɳ (%33) 26 Žȿ *gÆǵʐǪÊȶä ǴÀǪÊÆÝöÀæ* ÎǭʐÝɳ
·ʔȑÀȶä Ž ğÆDZȿ ɄøǪöä ÀȚÊÀɸ ǴÆȿÂøɸɋä

ÀŁåʐDZȿ ȷʐÒÀ äæÀȶ Ǵȑʐ ğÀɸäʐÆΣä äÀæ Žȿ ǴĤÆǴÛöä Ž *ǴÀǪÊÆÝöä* ȶäʐɸɉ ȝèäʐöä ȶäʐǪöä
Àɳ ÎǴöÀȡ ·%68 ƃÜ %0 ȸɳ ǴÆÀöä ÿʐĦÝöä Ž øÀÎǪɸȓä ȶʐÀǪÀ Æę ·ɄȴǪǵ ȼǴÌ ǴÆÀöä ÿʐĦÝöä Ž
ğÀɳʐÝĤɳ ÆDZʐǩ ·ƥʐǴÛȶä Ƙȡ ǯÀDZÆöä Ž ÎȒÀÜ ÀǨäʐǪɳ ǫʐÝǪöä ȸÒö ÛÀÀÂøÀȽä ȴΣ ǫʐÝǪÀ
·(22) ÿʐĦÝöä ȸɳ ǴöȿÂĤȶä *gÆǵʐǪÊȶä ǴÀǪÊÆÝöä* Ƀøäöæ Ǵȝʐʐ ȷüÎæ ǴÝÆÝę

*ǴÀǪÊÆÝöÀæ* ǫʐÝǪöä ǴDZøå ʔÝȝ ÎåÀȴǪȝä ǴȴĤüɉä ȒʐøȷüÎæ Æǵʐɳ øÀÆĤɳ ÆDZʐÀ ȓ
ÀȴÀÆæ ÛÎÕÝÛɳ ǫʐÝǩ õÀÆŁ ȷʐÒÀ ȓÜ (gÆĦǪȶä ğÀȓʐöäȿ ÀÊɸÀʐ) ȷäÆÝæ gÆȝ ÆÝÛǩ ·*gÆǵʐǪÊȶä*
ƂÀƤɋä āÀÆ8öä ÆÆõüǩ ŌÆĦǪÊȶä ȸɳ ·åÆȚ ŌȴƠ ÀȚÀÆÝʐ (ɄøɸÀȶÜ – äÆÀõ) ʔÀǹÜ ȷäÆÝæ
·(9) ǴȴĤüɉä ȝÆƤ Ž *ǴÀǪÊÆÝöä* ȶäʐɸɉ

ȶäʐɸÜ øÀÎǪɸä ʔÝȝ ÀȚÌÜ 6 gÆȶ ǴèäøåǨÀÀDZÜ :(gÆĦǪȶä ğÀȓʐöä) ÀɸøʐÀÆöÀõ Ž
*ǴÀǪÊÆÝöä* ȶäʐɸÜ ğåÀÀǪèä ·ƏÝöä ȝÀÔǪö gÆǵȿ 156 ȸɳ gæʐǹüȶä ǴÆÆǴöä ğÀÆĤöä Ž ǴÀÀǪÊÆÝöä
*ǴÀǪÊÆÝöä* ÀŒÜ ʔÝȝ ǨʐÀĤǪèä ɃøäóǾöä ȤÔɸ ·ǴÆÀæ ǴÆȝ 597 ȸɳ (%12.6) 75 ȸɳ
ȶäʐɸɉ ǴǴÊÀöÀæ ǴÆäÀƶä ğÀÆȝ ÀȚÀɳ 46 ǨÛȝÜ :ƏÝöä ȝÀÔǩ gÆǵȿ 156 ŌòÜ ȸɳ ·*gÆǵʐǪÊȶä*
·(7) *gÆǵʐǪÊȶä ǴÀǪÊÆÝöä* ÀŒÜ ʔÝȝ ǨʐÀĤǪèä ğäåÀÀǪÊȶä ǾØŁ ȸɳ %19.9ȿ *ǴÀǪÊÆÝöä*

ɃåäÀÀöä ğÀÀǪÊÆÝöä öäÆæ ǴòÀȽä ğÀƏÀæʐöä Ǩöäà Àɳ : ôÀȶä ğÀƏÀæȿ Ž ğÀɸäʐÆΣä øȿå
ÈÆöȿ ÛğÀɸäʐÆΣäȿ ȷÀÊɸɋä Ƙæ õÀǪÎɳ ôÀɳ ȼɸÜ ƘǯǵÀǴöä ȴȚĤɳ ȜǪĤÀ ·ÎÆÆDZ ǴʐȿÂĤɳ Ƙȡ
ǴÀÀǪÊÆÝöä (Ǵɳȿäåɳ) ǴɸÆö Ž õøÀÎǩ ğÀɸäʐÆΣä ȷÜ ŌȴǪǂä ȸɳ ·ȼǩäǾæ øÆÔȶä ɄøɸäʐÆǵ ÎȑÀɳ
· î Àǹ ŌÒÎæ ÀȚȝäʐǩ Žȿ ÿÀȝ ŌÒÎæ ǴĤÆǴÛöä Ž

ȷÜ ȸÒʑ ğÀɸäʐÆΣäȿ ȷÀÊɸɋä ȷÜ gǨǹɉä ğäʐÀÊöä Ž ǨÀÀDZÜ ɄøǪöä ğÀèäøÆöä ǨǵÀǪęä
ǴÀȒΣä ȨüÀȶä Ž ǫÆƠ ȷÀÊɸɋä ʔÆö ğȓÀΣä ȴȚĤɳ ·øåÀÔɳ gÆȝ ȸɳ ʔȿÆĤöä ÙŌǪÝǩ
Ž ·ʔȿÆĤöä øÆÔɳ ğÀɸäʐÆΣä ȷʐÒǩ ÆÖʐ Ōöæ ȝɳȿ ğÀɸäʐÆΣä ȝɳ ŌÆÝę āÀǪ ÆDZʐÀ ǬÆǵ

Ampicillin

°30 24 °30 24

acriflavin Nalidixic acid

Lithium chloride

.(31) moxalactam

Rhodococcus equi

.(49)

enterococci

3 1 staphylococcus aureus

.(8) DNA

:(CDC, 1992)

Alexander, A.V., R.L. Walker, B.J. Johnson, *et al.* Bovine abortions attributable to *Listeria ivanovii*: Four cases (1988–1990). *J Am Vet Med Assoc* 200:711–714, 1992.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bojsen-Moller, J. Human listeriosis: Diagnostic, epidemiological and clinical studies. *Acta Pathol Microbiol Scand* (Suppl 229):1–157, 1972.

Bortolussi, R., W.F. Schlech III, W.L. Albritton. Listeria. *In*: Lennette, E.H., A. Balows, W.J. Hausler, Jr., H.J. Shadomy. *Manual of Clinical Microbiology*. 4th ed. Washington, D.C.: American Society for Microbiology; 1985.

Broadbent, D.W. Infections associated with ovine perinatal mortality in Victoria. *Aust Vet J* 51:71–74, 1975.

Cain, D.B., V.L. McCann. An unusual case of cutaneous listeriosis. *J Clin Microbiol* 23:976–977, 1986.

Charlton, B.R., H. Kinde, L.H. Jensen. Environmental survey for *Listeria* species in California milk processing plants. *J Food Protect* 53:198–201, 1990.

Datta, A.R., B.A. Wentz, D. Shook, M.W. Trucksess. Synthetic oligodeoxyribonucleotide probes for detection of *Listeria monocytogenes*. *Appl Environ Microbiol* 54:2933–2937, 1988.

Dehaumont, P. *Listeria monocytogenes* et produits alimentaires: "zérotolérance au moins." *Bull Epidemiol Hebdom* 24:109, 1992.

Dennis, S.M. Perinatal lamb mortality in Western Australia. 6. Listeric infection. *Aust Vet J* 51:75–79, 1975.

Fleming, D.W., S.L. Cochi, K.L. MacDonald, J. Brondum, P.S. Hayes, B.D. Plikaytis, *et al.* Pasteurized milk as a vehicle of infection in an outbreak of listeriosis. *N Engl J Med* 312(7):404-407, 1985.

Franck, M. Contribution a l'Étude de l'Épidémiologie des Listerioses Humaines et Animales [thesis]. École Nationale Vétérinaire de Lyon, France, 1974.

García, H., M.E. Pinto, L. Ross, G. Saavedra. Brote epidémico de listeriosis neonatal. *Rev Chil Pediatr* 54:330–335, 1983.

Gellin, B.G., C.V. Broome. Listeriosis. *JAMA* 261:1313–1320, 1989.

Gellin, B.G., C.V. Broome, A.W. Hightower. Geographic differences in listeriosis in the United States [abstract]. 27th Interscience Conference of Antimicrobial Agents and Chemotherapy. New York, Oct 5, 1987. Cited in: Gellin, B.G., C.V. Broome. Listeriosis. *JAMA* 261:1313–1320, 1989.

Gitter, M., R. Bradley, P.H. Blampied. *Listeria monocytogenes* infection in bovine mastitis. *Vet Rec* 107:390–393, 1980.

Gray, M.L., A.H. Killinger. *Listeria monocytogenes* and listeric infections. *Bact Rev* 30:309–382, 1966.

Green, H.T., M.B. Macaulay. Hospital outbreak of *Listeria monocytogenes* septicaemia: A problem of cross infection? *Lancet* 2:1039–1040, 1978.

Guevara, J.M., J. Pereda, S. Roel. Human listeriosis in Peru. *Tropenmed Parasitol* 30:59–61, 1979.

Hird, D.W. Review of evidence for zoonotic listeriosis. *J Food Protect* 50:429–433, 1987.

Hofer, E., G.V.A. Pessoa, C.E.A. Melles. Listeriose humana. Prevalência dos sorotipos de *Listeria monocytogenes* isolados no Brasil. *Rev Inst Adolfo Lutz* 44:125–131, 1984.

Johnson, J.L., M.P. Doyle, R.G. Cassens. *Listeria monocytogenes* and other *Listeria* spp. in meat and meat products. A review. *J Food Protect* 53:81–91, 1990.

Kampelmacher, E.H., L.M. van Noorle Jansen. Listeriosis in humans and animals in the Netherlands (1958–1977). *Zbl Bakt Hyg Orig A* 246:211–227, 1980.

Killinger, A.H. Listeriosis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Killinger, A.H., M.E. Mansfield. Epizootiology of listeric infection in sheep. *J Am Vet Med Assoc* 157:1318–1324, 1970.

Larsen, H.E. Epidemiology of listeriosis. The ubiquitous occurrence of *Listeria monocytogenes*. *In*: Proceedings, Third International Symposium on Listeriosis, Bilthoven, The Netherlands, 1966.

Linnan, M.J., L. Mascola, X.D. Lou, *et al.* Epidemic listeriosis associated with Mexican-style cheese. *N Engl J Med* 319:823–828, 1988.

Mair, N.S. Human listeriosis. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain*. Oxford: Pergamon; 1968.

Manzullo, A. Epidemiología y epizootiología de la listeriosis. *Acta Bioq Clin Latinoam* 14:539–546, 1981.

Manzullo, A.C. Listeriosis [letter]. *An Acad Nacl Agr Vet* 44 (4):5–13, 1990.

McClain, D., W.H. Lee. Development of USDA-FSIS method for isolation of *Listeria monocytogenes* from raw meat and poultry. *J Assoc Off Anal Chem* 71:660–664, 1988.

McLauchlin, J. Human listeriosis in Britain, 1967–85, a summary of 722 cases. 1. Listeriosis during pregnancy and in the newborn. *Epidemiol Infect* 104:181–190, 1990a.

McLauchlin, J. Human listeriosis in Britain, 1967–85, a summary of 722 cases. 2. Listeriosis in non-pregnant individuals, a changing pattern of infection and seasonal incidence. *Epidemiol Infect* 104:191–201, 1990b.

Moro, M. Enfermedades infecciosas de las alpacas. 2. Listeriosis. *Rev Fac Med Vet* 16/17:154–159, 1961–1962.

Nieman, R.E., B. Lorber. Listeriosis in adults: A changing pattern. Report of eight cases and review of the literature, 1968–1978. *Rev Infect Dis* 2:207–227, 1980.

Owen, C.R., A. Neis, J.W. Jackson, H.G. Stoenner. A case of primary cutaneous listeriosis. *N Engl J Med* 362:1026–1028, 1960.

Paolasso, M.R. *Listeria* en Córdoba. *Acta Bioq Clin Latinoam* 14:581–584, 1981.

Pérez-Miravete, A., S. Giono. La infección perinatal listérica en México. II. Aislamiento de *Listeria monocytogenes* en septicemia del recién nacido. *Rev Inst Salubr Enferm Trop* 23:103–113, 1963.

Pinner, R.W., A. Schuchat, B. Swaminathan, *et al.* Role of foods in sporadic listeriosis. II. Microbiologic and epidemiologic investigation. The Listeria Study Group. *JAMA* 267:2046–2050, 1992.

Rocourt, J., J.M. Alonso, H.P. Seeliger. Virulence comparée des cinq groupes génomiques de *Listeria monocytogenes* (*sensu lato*). *Ann Microbiol* 134A:359–364, 1983.

Roncoroni, A.J., M. Michans, H.M. Bianchini, *et al.* Infecciones por *Listeria monocytogenes*. Experiencia de 15 años. *Medicina* 47:239–242, 1987.

Schlech, W.F., P.M. Lavigne, R.A. Bortolussi, *et al.* Epidemic listeriosis—evidence for transmission by food. *N Engl J Med* 308: 203–206, 1983.

Schmidt-Wolf, G., H.P.R. Seeliger, A. Schretten-Brunner. Menschliche Listeriose-Erkrankungen in der Bundesrepublik Deutschland, 1969–1985. *Zbl Bakt Hyg A* 265:472–486, 1987.

Schuchat, A., K.A. Deaver, J.D. Wenger, *et al.* Role of foods in sporadic listeriosis. I. Case-control study of dietary risk factors. *JAMA* 267:2041–2045, 1992.

Schuchat, A., B. Swaminathan, C.V. Broome. Epidemiology of human listeriosis. *Clin Microbiol Rev* 4:169–183, 1991.

Schwartz, B., C.A. Ciesielski, C.V. Broome, *et al.* Association of sporadic listeriosis with consumption of uncooked hot dogs and undercooked chicken. *Lancet* 2:779–782, 1988.

Seeliger, H.P.R. *Listeriosis*. New York: Hafner Publishing Co.; 1961.

Selander, R.K., D.A. Caugant, H. Ochman, *et al.* Methods of multilocus enzyme electrophoresis for bacterial population genetics and systematics. *Appl Environ Microbiol* 51:873–884, 1986.

Skalka, B., J. Smola, K. Elischerova. Routine test for *in vitro* differentiation of pathogenic and apathogenic *Listeria monocytogenes* strains. *J Clin Microbiol* 15:503–507, 1982.

Stamm, A.M., W.E. Dismukes, B.P. Simmons, C.G. Cobbs, A. Elliott, P. Budrich, *et al.* Listeriosis in renal transplant recipients: Report of an outbreak and review of 102 cases. *Rev Infect Dis* 4:665–682, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Listeriosis associated with consumption of turkey franks. *MMWR Morb Mort Wkly Rep* 38(15):267–268, 1989.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Update: Foodborne listeriosis—United States, 1988–1990. *MMWR Morb Mort Wkly Rep* 41:251, 257–258, 1992.

Vázquez-Boland, J.A., L. Domínguez, M. Blanco, *et al.* Epidemiologic investigation of a silage-associated epizootic of ovine listeric encephalitis, using a new *Listeria*-selective enumeration medium and phage typing. *Am J Vet Res* 53:368–371, 1992.

Weis, J., H.P.R. Seeliger. Incidence of *Listeria monocytogenes* in nature. *Appl Microbiol* 30:29–32, 1975.

World Health Organization (WHO). Outbreak of listeriosis in 1992. *Wkly Epidemiol Rec* 68(13):89–91, 1993.

Young, S. Listeriosis in cattle and sheep. *In*: Faulkner, L.C., ed. *Abortion Diseases of Livestock*. Springfield: Thomas; 1968.

# LYME DISEASE !ĭŬ ƀƐɋ

## ICD 10 A69.2

Lyme ČŸŏ ŌÔĀţä āĀŢǪöä ÛLyme borreliosis ČŸŏ ğĀĿŸĀøɀĢöä ŏäá ˑğĀɀáäĀţä ·ŎöĀĀţä āĀŢǪöä Ʒŋ (ĞĀŋĀţä ğĀDZĀŢţä ʔŋĀŧΣä ĦÖäĀè) ğĀDZĀŢţä ʔŋĀŧΣä Ûorthritis ÆŎĦŋ ȸŋ ááĀŎöä ĘĀĀü ȸʒ ŌŎǪĀk spirochete ĞĀɀǪŸŋ ɀŁ ɄøĢĢÊöä ŌŋĀĦöä ˑğĀĿĢĢÊöä *Borrelia burgdorferi* ĞĀƘɀøşÆɋøɀĢöä ĞĿöøɀĢöä ʔŧÊĿş *Ixides ricinus* Ʉʒşʏä ŋä áɀĢŸöä .(21-20-10) ĀŢĀ ÎǪŎţ ĞĢĿÊɸ

ȸŋ ȷɀŎǪĀş ÛSpirochaetaceae ğĀɀǪŸţä ĞŸĿŎɀ БÜ *Borrelia* ĞĿöøɀĢöä ÈĀDZ ɄŧǪĀĀ ĦɍɀüȷşĀŎĿŋ 39-11 ĞĀƘɀøşÆɋøɀĢöä ĞĿöøɀĢöä ÈĿŎĀ ·ĞŏĀΣä ĞŨĿ Îɸ ŌŎ Îöä ĞĿɸşĀŸğ ʟĿǪäĀDZ ȐĦä Āäøşİ Ž ğáĀĀǪèä ɄøǪöä *ĞĀƘɀøşÆɋøɀĢöä ĞĿöøɀĢöä* ɃøäøæğĀŢşİ ·ĦüɀĚ 11 ĀŢş Plasmid- ğÆĿŋäŸĢöä ʔŸʒ ȸĀÆŧǪĦţä ƙĿÊĿəĀöä ƙĿĦɃÛÊöä ƙĀĿĀşƎöä Ž ĞöĀńş ĞĀĀĀ8Ǫöä .(Steere 1990) dependent

ğĀĀɍɀöä Ž ĞĀɍş 46 Ž ɃĀ ÎĢöä ôĀţä ĀĿĿɋ Ź ˑȷĀÊɸqä Ž ǫşÆΣäş ŽäĀ8ƨä ţäɀǪöä Ž ÆĀÆĦɃǪöĀæş) ɄÊŸüĵä ÜĿǂä ŌğĀè ɄŁ ÆŸĢöä äØŁ Ž ĞɸɀüɀţäøüĢöä ğäæ ĘüĀĀţä ·ğÆĦɃǪţä ɄøǪĀɍşş āĀ8öä Üèş Ž ĀķɀÊĿĀĿŋş ƙÊɸɀŎÊĀş ɄøǪŎÛĀŋş (ĞĿɸĀ Îöä ĞĿöĀŧ Îöä ĞŎÛĀţä Ž ·áÆŧǪöĀæ ğØńÜ ĞĿĦĿĢÛöä øüĢöä ȷÜ ·ÜáĀŢä ÜĿǂä ŌğĀè öɀü ʔŸʒ ȷɀ8Āøäş ĀĿɸøɀĀĿöĀŏ Āŋ 8 БÜ 4 ȸŋ ĞŸDzÊţä ĞĀĀ ÎĢöä ğɍĀΣä ğäæ ʟĿöĀęĵä áÆʒ ƷĀķøä New York ŏøɀĀɀĿɸ ĞĀɍş ţɀɸ ȸŋ ááĀŎöä ĀŢĿɀ ÆDZş ɄøǪöä ʟĿöĀęĵä áÆʒ ÛĘɀŋ ŌŎ Îæ Ûááääş Û1989-1985 ɄŋĀʒ ƙæ ĀŢÊĀɸ ğĀǪĀöä öŸń 22 БÜ 4 ȸŋ ÛʔşÆĦöä ŌęĀɸ Û*Ixodes dammini* *ɄøĀĿŋäÆöä áɀĢŸöä* ğĀĀɍɀöä Ž 1992-1982 ɄŋĀʒ ƙæ Āŋ ĞöĀğ 40000 ȸŋ ĀǯŏÜ ĶŸDzè [1](White *et all* 991)

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āɀĀDZ Ž ááĀŎöä ) *I. Scapuluris* *ɄĀǪŎäş* *Ixodex dammini* *ɄøĀĿŋäÆöä áɀĢŸöä* ȸŋ ĦŸŏ ȷÜ Ğèäøá ğøĀĭÜ [1] *áɀĢŸöä* ĞĿɃŎöä ŌŎ ÎöĀæ ʔŧÊĿ ȷÜ Æɀ ɄøǪöäş ÛĀŢÊĀɸ ţɀĀŸö ĞĢÊĀöĀæ ĞĿɀäĀ8DZ ğĀķşĀĀǪŋ ɄŁ ( ğÆĦɃǪţä ğĀĀɍɀöä ĀĀɸüɀ ÛʔşÆĦöĀæ ĞæĀöq ä öÆĦŋ Žş ĀĿDZɀöɀŎĀɍä ŎƸ ĀŧĿɀ ğĀɀŸǪńä ŏĀĀŁ ȷÜ øĀǪʒĀæ .*I.Scapularis* *ɄĀǪŎä*
·āĀǪŏŸŏ ĦĢĀɵ ƙæĀȐöä ŸŎŏ ƷəĀ Îöä ÿäÆĀǪèɍä ğäæ ğĀĦŸÛŎţä ʔŸʒ ŏĀŎäqĀæ ĢŎĀɸ

[illegible]

[illegible] *Ixodes dammini* [illegible]

[illegible] *I. Pacificus* [illegible]

[illegible]

[illegible] *Ixodes ricinus*

[illegible]

*.I. Presulcatus* [illegible]

[illegible]

[illegible]

[illegible]

[illegible] *I. Dammin* [illegible]

:(24) [illegible] 1982 [illegible] 1978 [illegible]

%27 :(*odocoileus virginianus*) [illegible]

%10 :(*Peromyscus Leucopus*) [illegible]

%17 :(*Tamias striatus*) [illegible]

%50 :(*sciurus carolinensis*) [illegible]

%17 :(*Didelphis virginiana*) [illegible]

%23 :(*Procyon lotor*) [illegible]

%24 : ā ƔȮŏă

ŏȦȐŒGŏă ȳăÆęɉă ğăǽ ȸɳ ǥǿűʐ 20 ȸɳ ǥÆǥăş ǥǿűʐ ʔÆŏ ȳÆŏă ʔȀƒ ȸɳ ǴȀʐǪŸţă ğǻȀȀǪȅă

.(8) (2) Ǧŏʐ ʜȦţă

ɉǕ ÆDZş : ƙÊɸȂȮÊȦş Ž ğȦɸăʐƩΣă ȝƩŏ ƙȞęʐɳ ȸɳ ā Ɣō ȸɳ ǥǽʐȁűɳ ǴȜȝ 380 ȸɳ

8 ʔÆŏ ȳÆŏă ȸɳ ô Ȁɫţă ŌɳȦȞŏă ǻȀȀɸȅăşÛɄȝȀţă Ęŏűǫŏă ǿȦǪȁɪ ȀȩăȦƶǕ ƘŸȝȦȀǩ ȦƬȀɳ %53

.(12) ȀGŸō 111 ȸɳ ā Ɣō

1988 ȳȦȝ ā ƔȮŏă ȸɳ ǴȜȝ 2409 ȌʜȦŏ ȼÊȀɸ ǿȦǪȁɪă ɃȀDZǕ :Texas ā ȦÊȮǩ Ž

ȸɳ ŌÔţă ɄǿăȦƶǪă ā ƔȮŏă ȸɳ ÆȜÆȞŏă ɉȦō .ǴȩăȦƶǕ ǰəȀǪɸ ȸȝ (%5.5) ȦƬȀɳ 132 ğȀǫǕş

.(14) ǴȀȀ ȊGŏă ğɪȦʜŸŏ ȜōɉăǴǴÊȀŏă ƘŸDzȅ ǬȜǥ Ǵȁɪʐŏă ȸɳ ʔÛȅʐŏă ǴȩŏȦɫ Ȋŏă ǴŌÛȀţă

Ž .*I. Dammini* *ɄǿȜɳȦÆŏă ǻʐGŸŏă* ŌGę ȸɳ ȟÆŸŏ ǿȀȮǪɳ ŌȮȊă ô ȀȞǪǩ ȯʐȜɭă ɉǕ Şǥʐŏ

Ž ǴʐşȀȞɳ Ǵɸʐűʐɳ ǴŌÛȀɳ Ž ɄəăʐȊȝ ŌȮȊă ǥȦŌǪȀɳ ȀɸȦÔǥ 50 ǿŏ ǴȜDZʐŏşƘȅ Ǵȅăǿǻ

.ȀȉȦGţă Ƙȡ ɄȝȀţă Ęŏűǫŏă ǿȦǪȁɪ ȀȩăȦƶǕ ȦƬȀɳ 13 ŌȝȦȀǩ ÛǥÆʜǪţă ğȦȀɪʐŏă

:"ăȀȜŏǕ" ǾȀɸɉȦă șGǨȀţă Ʉȝ ȀȀţă ȀǪɫţă ǴÊȀȀŌɳ ǴŌȀȀű ȳăÆȀǪȅȦă ȀȁǕ ɄDZʐŏşƘȅ ǴÊɳ Ž

6ş Û ȋ ʐʜȀɳ ɉȦÔǥ 100 ȸɳ ā ǻȦÊŏă ȀƬȊŏă Ž ǿȦǪȁɪă ǴȩȦƶǕ ƘɸȦō ȀɸȦÔǥ 13 ɉǕ ÆDZş

ǴɳǻȦę ȻØŁ ȯʐȜɭă Ƙɸȍō .(%7) 91 ȸɳ (11) 10 ȀƬȊŏă Ž ǿȦǪȁɪă ǴȩȦƶǕ ƘɸȦō ǴȀÔǥǕ

ǴȀɪş ȸɳ ǴɳǻȦŌŏă ȯʐȜɭă Ž ǻăÆȑɉă ğȦăȦDzǪȅă Ȁǩăʐǩ ɉȦō .ǴȜȮȀȀɳǕ ǴȜęȀȋ ğȀɪş 5 ȸɳ

ǴŸȝȦȀǪɳ ȯʐȜȁ ÆDZăʐǪǩ Ɓ ŌăȦŌţȦăş .(6) ȀȜɸȀȀŸÊɸȦă Ǵȁɪş ȸɳ ǴɳǻȦŌŏă ŌŸǩ ȸȝ ʔŸȝǕ ɄȅȀDZʐȜɸ

.(15) ā ȦÊȮǩ Ûȅş Ž

erythema ǥȀDZȦƬţă ʔɳȦɫΣă :ǥȀȜɫţă ǴȀÆŸƨă Ǵʐɇă ȀƬȚǩ :ɉȦÊɸǪă ʔÆŏ ǫşÆΣă Ǿȁűǩ ǴűȦÛǥ şǕ ŏăȀþ ǴȞŌGă ǴʐɇăÛÆGǩ .ǻăȀŌŏă ǴɖÆŏ ÆȞȦ ȀɳʐȀ 20-3 ȯŸȁ migrans (EM)

Æę .ǴȜŌŸǥ ʔɳȦþ ŌȮȊǪş Ǵʐɇă ȀōȀɳ ÆʜȊȦş Ǵɤăş ŌȮȊă ȢăʐΣă ÛÛȀǪǩ .ȝȅʐǪŏȦă

Æę .ȴÊƨă ȸɳ ʔȀȁɉă ŏăȀDZɉă ʔŸȝ ȀƬȚǩ ǴȀʐɸȀǫ ğȦʐǕ ŌȮȋ ʔŸȝ ǴÊōȀɸ ʔɳȦɫΣă ɉʐȮǩ

ȳɪǕ şǕ ǴÊGȜǪɳ ǴGęǿ şǕ ţăÆŌŏă şǕ ʔɫΣă şǕ Ǭȝ ÆŏăȝɳȜȝ ȦȅǕ ǥÆȞŏ ǴȀÆŸƨă ğȦʐɇă Ęʐăȁǩ

.ǴȜȀɫŸŏă ÆŌȞŏă ȴȀȐǩ şǕ ǴȜŸȮȀɳ ȳɪǕ şǕ ǴȜŸȐȝ

[illegible] multiple [illegible] (8) [illegible]

[illegible] 405 [illegible] 249 [illegible] (8) [illegible]

[illegible] 30-10 [illegible] doxycycline [illegible] ceftriaxone [illegible]

[illegible] (15) [illegible] ELISA [illegible] Western blot [illegible]

[illegible] Wells) [illegible] 17 [illegible] 27 [illegible] .(et al 1993

[illegible] *Ixodes dammini* [illegible] *I. Ricinus* [illegible] (5) [illegible] *I. Pucificus* [illegible] (8) [illegible] *I. Holocyclus* [illegible] *I. Persulcatus* [illegible]

[illegible] 110 [illegible] (%19) 21 [illegible] .(*I. Dammini* [illegible]) [illegible]

[illegible] *I. Dammini* [illegible] 143 [illegible] (%21) 30 [illegible] 66 [illegible] (%26) 17 [illegible] 148 [illegible] %50 [illegible] .(Steere *et al* 1983) [illegible] *I. Pacificus* [illegible] %2 [illegible] (7) [illegible]

[illegible] (*Peromyscus Leucopus* [illegible]) [illegible]

*Apodemus* … *Clethrionomys* … *Sylvaticus* …

… (11) …

… (odocoileus virginianus) …

… biotope …

… (23) …

… (8) (1) …

… 1993 … 142 … Steve etal

ȡŋ (BSK) Burbour, Stoener, Kelly ƗŶĪõ ˉ Ȁǫζǫè ˉ øζäȀǟ Ừèș ÿǼǺǫÊȀ ·ǞȒȀȀŋ 56
ŎƮèǓ ǦȀǼŶƨä ğȀζǿä ȡŋ ŎŋȀȞöä ấäȀȀǫèä ·ÿ °33 ǵøäȀǵ ǦDZøấ Ž ȡȒĦłș ấäȀȀǫèɍä ŎDZǓ
ȯζÔŋ ȝŋ ȀȉȀǤţä ƘȡƗȝȀţä ĘöüǫöäøȀǤǫǹä ǓȝèäșŎȮÎæșǓÿǼǺǫèä ·ÿǼöä ȡŋ ȻấäȀȀǫèä ȡŋ
ğäøȀȄȝ ǥȀDZȀƮţä ʔŋȀŧΣȀǟ ƙäȀÔţä ʔȑȀţä ʔǼö ǼDZζȀ ·ǦǫȀǫÖŋ IgGș IgM ʔŶȝ ɃζƠ
·ȝȀǟèǓ 3-2 ǼĦǟ ǦŁȀÖȀöäș ǥȀDZȀƮţä ʔŋȀŧΣä øζü ƙä Ȭöæș ǓIgM ấäǼȑɟä ȡŋ ǦĦȀǨȀŋ
(ǦǤǦÔȝ șǓ ǦǤŶę ğäæșØȉ ˉ ŎÔȀţä āȀƮǫöä) ôȀŧŶö ǥȀǹüǫŋ ğäȀŁȀŢǨ ȴƮȀǼö ȡȀØöä ʔȑȀţä
Ƙȡ ELISA äȀĘöǓ øȀǤǫǹä ɉǓ ǼĦǟ ȀŧǼζ ȀƮșǞ ·(8) IgG ấäǼȑǫö ǦĦȀǨȀŋ ğäøȀȄȝ ǞȒȀǓ ȴƮȀǼö
ğŸȝȀȀǨ ȫȀȀŁ ɉζÖǨ Ǽę ·(8) ƗȝȀȀţä ĘöüǫöäøȀǤǫǹä ȡŋ ǦȄȝζǫș ǦĘèȀÊǵ ȀǯõǓ ɉȀõ ȀȉȀǤţä
ȬŶǫǫ ȀŒǓ ʔŶȝ ȯǼȀ Ȁư ǓǦĘDZζöșƘÊöä ğäøȀǤǫǹɍä Ž Ȭöæș ʔȀǹǓ ğȀȀζǫŶŋ ȝŋ ǦǤöȀÔǫŋ
· ôäȀȝɟä Ƚζǻȝ ȋȀȀȉǫö ǦǤÊȀöȀǟ ȀƮŋäǼǺǫèȀǟ ǴÔȀŁ ɍș ǓƙȀấșǼŢ ǦȄȝζǫșǦĘèȀÊǵ
ǦȀζĘΣä ğäấȀȒţȀǟ ǥȀÖǤţä ǦƨȀĦţä ÒÖȀǨ ·ɉȀÊǫǫä Ž Ȁţ ȻȀȀÎŋ ğȀǫäζĘΣä Ž ÒĘǺȀÎǫöä
Ǽęș Ǔô ȀŧŶö ǥȀǹüǫţä ğäȀŁȀŢǫöä ȡŋ ŎŶÖǨ șǓ ȝȀǫ Ǽęș ǥȀDZȀƮţä ʔŋȀŧΣä øζƮș ǥǼŋ ȡŋ
·ấäǼȑɟä ʔζǫÊŋ ȋȀÖǫǓ ʔŶȝ ƘǫüǨ ȀƮ ɉζÖȀ
Ǽƶ ·ấäȀȬöä ğȀȡǼöș Ǧǫζüζţä ĘüȀȀţä ǼȀΘ ǦȀȀęζŶö ǥǼĘǵζöä ȧȀǓöä ȡŧȒǫǨ ·ǦĦζȀÖţä
ɉǓ ȴȡø ǦȀÔŢ ǦÊǤöǓș footwears ǞȀĥ äșǼǨȀȀ ɉǓ ǦĘĦǤǓöä øüǤöä ƂǓ ƙŶǹäǼöä ȋȀȀȉɟä ʔŶȝ
·Ǟŧäấ ȡÖư Ƙȡ Ȭöæ
ȬĦȀǟ ǴÔȀłș ·ƙÔĦǫöä ȒĦǟ (ğäȀÎĦŶö ǥấøȀǓöä ấäζţä) ğäȀÎΣä ğäȀǵȀŋ ȡŋǘǨ Ǽę
ȝP) ğȀȉȀǫȀţä ǦǓèäζǟ ƵǓŶǟ ȻǤĦè ĘȀȀü ȡȝ ĘÔǫŶţä ấäȀÖöä ţȀǫș øȀÖǫŋ ŎȮÎǟ ȴÊƨä
ŏäǼǨøȀǟ ǴÔȀłș ·ǞȀÖư Ȭöæ ɉζÖȀ Ȁŋ āȀęǓ ŎȮÎǟ ǼŶƨä ʔŶȝ ỪȢȒȴ Ƚøǫöä (ȇȀǫȀǫ
·ǦǼŶŧĦöä ȻØŁ ŏäȀDZǓ ŏȀȀǫǓ ğäȀȀÖöä
Ž Ȁŧõ øØɯ ȀƮŋȀÊDZǓ ʔŶȝ ȡŋ ấäȀÖöä ţȀǫș øȀÖǫŋ ŎȮÎǟ āŶÖöä ȬĦζ Ǽƶ
ǦȬȀȀü ȧäζüǓ șǓ ĘǤǵȀÊŋ ŎȮȉ ʔŶȝ Tickicides ấäȀÖöä ğäǼǤǫŋ ÿäǼǺǫèä ɉǓ ·ɉȀÊǫǫä
ŎöȀȀǟ ƙǫȝȀDZ ʔŶȝ ʔǓȞłș āŶÖöä ŎDZǓ ȡŋ ŎǓȞŋ ɃøȀΘ ǳȀÖö ǞǤöȀǵ ǼDZζȀ ·ǥǼǤDZ ǦȜȀęș
ǳȀÖŶöä äØŢ ȀĘŧţä Ƙȡș øȀÎǫɍä ȝèäζöä ÿäǼǺǫèɍä ŎȮÎȀ ·(13) ǞȀζȀè ʔǓȞȀ Ż ȝȀǟèǓ 3
·Ƚŋζǫȝƨä ǳȀÖŶöä äØŢ ǦǤǫȀDZ øȀǫǓ ấζDZș ÿǼȝ ǦŢǵŸŋ ȴȡø ǦȋęȀŧŶö ǥȀŋ

# UøШɛþøǅǁɛ


Anderson, J.F. Epizootiology of *Borrelia* in *Ixodes* tick vectors and reservoir hosts. *Rev Infect Dis* 11(Suppl):1451–1459, 1989.

Anderson, J.F., L.A. Magnarelli. Spirochetes in *Ixodes dammini* and *Babesia microti* on Prudence Island, Rhode Island. *J Infect Dis* 148:1124, 1983.

Anderson, J.F., L.A. Magnarelli. Avian and mammalian hosts for spirochete-infected ticks and insects in a Lyme disease focus in Connecticut. *Yale J Biol Med* 57:627–641, 1984.

Barbour, A.G. Isolation and cultivation of Lyme disease spirochetes. *Yale J Biol Med* 57:521–525, 1984.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bernard, W.V., D. Cohen, E.M. Bosler, D. Zamos. Serologic survey for *Borrelia burgdorferi* antibody in horses referred to a mid-Atlantic veterinary teaching hospital. *J Am Vet Med Assoc* 196:1255–1258, 1990.

Bosler, E.M., J.L. Coleman, J.L. Benach, *et al.* Natural distribution of the *Ixodes dammini* spirochete. *Science* 220:321–322, 1983.

Bosler, E.M., B.G. Ormiston, J.L. Coleman, *et al.* Prevalence of the Lyme disease spirochete in populations of white-tailed deer and white-footed mice. *Yale J Biol Med* 57:651–659, 1984.

Bruhn, F.W. Lyme disease. *Am J Dis Child* 138:467–470, 1984.

Burgdorfer, W., A.G. Barbour, S.F. Hayes, *et al.* Lyme disease—A tickborne spirochetosis? *Science* 216:1317–1319, 1982.

Burgdorfer, W., S.F. Hayes, D. Corwin. Pathophysiology of the Lyme disease spirochete, *Borrelia burgdorferi*, in ixodid ticks. *Rev Infect Dis* 11(Suppl 6):1442–1450, 1989.

Burgess, E.C. Natural exposure of Wisconsin dogs to the Lyme disease spirochete (*Borrelia burgdorferi*). *Lab Anim Sci* 36:288–290, 1986.

Chu, H.J., L.G. Chavez, B.M. Blumer, *et al.* Immunogenicity and efficacy study of a commercial *Borrelia burgdorferi* bacterin. *J Am Vet Med Assoc* 201:403–411, 1992.

Cohen, N.D., C.N. Carter, M.A. Thomas, Jr., *et al.* Clinical and epizootiologic characteristics of dogs seropositive for *Borrelia burgdorferi* in Texas: 110 cases (1988). *J Am Vet Med Assoc* 197:893–898, 1990.

Cohen, N.D., F.C. Heck, B. Heim, *et al.* Seroprevalence of antibodies to *Borrelia burgdorferi* in a population of horses in central Texas. *J Am Vet Med Assoc* 201:1030–1034, 1992.

Charmot, G., F. Rodhain, C. Perez. Un cas d'arthrite de Lyme observé en France. *Nouv Presse Med* 11:207–208, 1982.

Gerster, J.C., S. Guggi, H. Perroud, R. Bovet. Lyme arthritis appearing outside the United States: A case report from Switzerland. *Brit Med J* 283:951–952, 1981.

Hanrahan, J.P., J.L. Benach, J.L. Coleman, *et al.* Incidence and cumulative frequency of endemic Lyme disease in a community. *J Infect Dis* 150:489–496, 1984.

Hayes, S.F., W. Burgdorfer, A.G. Barbour. Bacteriophage in *Ixodes dammini* spirochete, etiological agent of Lyme disease. *J Bacteriol* 154:1436–1439, 1983.

Johnson, R.C., F.W. Hyde, C.M. Rumpel. Taxonomy of the Lyme disease spirochetes. *Yale J Biol Med* 57:529–537, 1984.

Johnson, R.C., F.W. Hyde, A.G. Steigerwalt, D.J. Brenner. *Borrelia burgdorferi* sp. nov.: Etiologic agent of Lyme disease. *Int J Syst Bacteriol* 34:496–497, 1984.

Kazmierczak, J.J., F.E. Sorhage. Current understanding of *Borrelia burgdorferi* infection, with emphasis on its prevention in dogs. *J Am Vet Med Assoc* 203:1524–1528, 1993.

Madigan, J.E., J. Teitler. *Borrelia burgdorferi* borreliosis. *J Am Vet Med Assoc* 192:892–896, 1988.

Magnarelli, L.A., J.F. Anderson, W. Burgdorfer, W.A. Chappel. Parasitism by *Ixodes dammini (Acari: Ixodidae)* and antibodies to spirochetes in mammals at Lyme disease foci in Connecticut, USA. *J Med Entomol* 21:52–57, 1984.

Oliver, J.N., M.R. Owsley, H.J. Hutcheson, *et al.* Conspecificity of the ticks *Ixodes scapularis* and *I. dammini (Acari: Ixodidae)*. *J Med Entomol* 30:54–63, 1993.

Russell, H., J.S. Sampson, G.P. Schmid, *et al.* Enzyme-linked immunosorbent assay and indirect immunofluorescence assay for Lyme disease. *J Infect Dis* 149:465–470, 1984.

Schmid, G.P. The global distribution of Lyme disease. *Rev Infect Dis* 7:41–50, 1985.

Schulze, T., G.S. Bowen, E.M. Bosler, *et al.* *Amblyomma americanum*: A potential vector of Lyme disease in New Jersey. *Science* 224:601–603, 1984.

Stanek, G., G. Wewalka, V. Groh, *et al.* Differences between Lyme disease and European arthropod-borne *Borrelia* infections. *Lancet* 1(8425):401, 1985.

Steere, A.C. Borrelia burgdorferi (*Lyme disease, Lyme borreliosis*). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Steere, A.C., J. Green, R.T. Schoen. Successful parenteral penicillin therapy of established Lyme arthritis. *N Engl J Med* 312:869–874, 1985.

Steere, A.C., R.L. Grodzicki, A.N. Kornblatt, *et al.* The spirochetal etiology of Lyme disease. *N Engl J Med* 308:733–744, 1983.

Steere, A.C., S.E. Malawista. Cases of Lyme disease in the United States: Locations correlated with distribution of *Ixodes dammini*. *Ann Intern Med* 91:730–733, 1979.

Stevens, R., K. Hechemy, A. Rogers, J. Benach. Fluoroimmunoassay (FIAX) for Lyme disease antibody. Abstracts, Annual Meeting of the American Society for Microbiology, March 3–7, 1985.

Stewart, A., J. Glass, A. Patel, G. Watt, A. Cripps, R. Clancy. Lyme arthritis in the Hunter Valley. *Med J Aust* 1:139, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Current Trends Update: Lyme disease and cases occurring during pregnancy—United States. *MMWR Morb Mortal Wkly Rep* 34:376–378, 383–384, 1985.

Wells, S.J., M. Trent, R.A. Robinson, *et al.* Association between clinical lameness and *Borrelia burgdorferi* antibody in dairy cows. *Am J Vet Res* 54:398–405, 1993.

White, D.J., H.G. Chang, J.L. Benach, *et al.* The geographic spread and temporal increase of the Lyme disease epidemic. *JAMA* 266:1230–1236, 1991.

Wilkinson, H.W. Immunodiagnostic tests for Lyme disease. *Yale J Biol Med* 57:567–572, 1984.

Oliver, J.N., M.R. Owsley, H.J. Hutcheson, *et al.* Conspecificity of the ticks *Ixodes scapularis* and *I. dammini (Acari: Ixodidae)*. *J Med Entomol* 30:54–63, 1993.

Russell, H., J.S. Sampson, G.P. Schmid, *et al.* Enzyme-linked immunosorbent assay and indirect immunofluorescence assay for Lyme disease. *J Infect Dis* 149:465–470, 1984.

Schmid, G.P. The global distribution of Lyme disease. *Rev Infect Dis* 7:41–50, 1985.

Schulze, T., G.S. Bowen, E.M. Bosler, *et al. Amblyomma americanum*: A potential vector of Lyme disease in New Jersey. *Science* 224:601–603, 1984.

Stanek, G., G. Wewalka, V. Groh, *et al.* Differences between Lyme disease and European arthropod-borne *Borrelia* infections. *Lancet* 1(8425):401, 1985.

Steere, A.C. Borrelia burgdorferi (*Lyme disease, Lyme borreliosis*). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Steere, A.C., J. Green, R.T. Schoen. Successful parenteral penicillin therapy of established Lyme arthritis. *N Engl J Med* 312:869–874, 1985.

Steere, A.C., R.L. Grodzicki, A.N. Kornblatt, *et al.* The spirochetal etiology of Lyme disease. *N Engl J Med* 308:733–744, 1983.

Steere, A.C., S.E. Malawista. Cases of Lyme disease in the United States: Locations correlated with distribution of *Ixodes dammini*. *Ann Intern Med* 91:730–733, 1979.

Stevens, R., K. Hechemy, A. Rogers, J. Benach. Fluoroimmunoassay (FIAX) for Lyme disease antibody. Abstracts, Annual Meeting of the American Society for Microbiology, March 3–7, 1985.

Stewart, A., J. Glass, A. Patel, G. Watt, A. Cripps, R. Clancy. Lyme arthritis in the Hunter Valley. *Med J Aust* 1:139, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Current Trends Update: Lyme disease and cases occurring during pregnancy—United States. *MMWR Morb Mortal Wkly Rep* 34:376–378, 383–384, 1985.

Wells, S.J., M. Trent, R.A. Robinson, *et al.* Association between clinical lameness and *Borrelia burgdorferi* antibody in dairy cows. *Am J Vet Res* 54:398–405, 1993.

White, D.J., H.G. Chang, J.L. Benach, *et al.* The geographic spread and temporal increase of the Lyme disease epidemic. *JAMA* 266:1230–1236, 1991.

Wilkinson, H.W. Immunodiagnostic tests for Lyme disease. *Yale J Biol Med* 57:567–572, 1984.

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# MELIOIDOSIS !ŊjΎɛƥǁɛ

ƼΎƑƬǁɛŊj ơƑƟǁɛ !ŊjΎɛƥǁɛ **ICD -10 A24.1**

!ŊjΎɛƥǁɛ ƊžƊž ŋjƥƠƨ̆ üƑǀ ʅƈ **A24.3** ǕƊžƊžƦƊžǁɛŊj ơƑƟǁɛ ǀ Ɵɫ !ŊjΎɛƥǁɛ **A24.2**

**ICD-10 A24.1 acute and fulminating melioidosis;**
**A24.2 subacute and chronic melioidosis; A24.3 other melioidosis**

.Rodent glanders ô øÀÕă ÿÀʒÀöă ÛWhitmore óʐɫÊkāş ŏăá ⁚ğ ÀʐáăÀţă

[illegible] (*Malleomycetes* [illegible]) *Pseudomonas Pseudomallei* [illegible] P. Mallei [illegible] .(Thomas and Forbes-Faulkner, 1981) [illegible] 30 [illegible]

[illegible] .(Dance 1991, Ismail *et al.*, 1991) [illegible]

[illegible] Guam [illegible] Aruba [illegible]

[illegible] (Benenson 1990; Galimard and Dodin, 1982 [illegible] .(Dance, 1991 a

(Piggott, 1976)

(CDC, 1977)

1965

Kanai) 1988، 1967 ... 1000

(and Dejsirilert, 1988

(Purrie, 1993)

(Aruba ...)

*Macaca fascicularis*

13 ... 50

(Dance

(*et al.*, 1992

[illegible] (Kanai and [illegible] %30 [illegible] .Dejsirilert, 1988)

[illegible]

[illegible] (Kanai and [illegible] .Dejsirilert, 1988)

[illegible] 16 [illegible] 6 [illegible] .(Webling, 1980)

[illegible] Concurrent [illegible] %70 [illegible] .(Dance, 119/b) [illegible] 2: 3 [illegible]

[illegible] %50 [illegible] .(White *et al.*, 1989) [illegible]

[illegible] Primates [illegible] 90 [illegible] 25 [illegible] (Sutmoller *et al.*, [illegible] (Laws and [illegible] .1957) .Hall, 1964)

[illegible] 8 [illegible] 17397 [illegible] 159) [illegible] 3 [illegible] %40 [illegible] .(Ketterer *et al.*, 1986) [illegible] .%34 [illegible]

[illegible]

·ɉÀÖĿÊöä ğÀɳæşş

ɄøQöä ǴĿφäȥĿΣä ţäȥφɉä Ž ôÀţä ÒĿÁÎǩ ǴäȥȞÔöä ȸɳş ·ĿÆDZ ğÂĿɰ ǨÊĿö ôäÀȝɉä ȳȥȝäÀöÀæ ÛɉÀÊφqä ÆÀȝ Àţ ǦöÀÎɳ ɄĿ ɄøQöäş ÛğÀȥǿä Ʉǵȥǩ Æę ·ÀÁáäÀȥ ôÀţä ÀƬĿȥ ϙÆȜ ·¢ÔĿÁÎǩ БǛ Ɓáúǩş

ğÀȝáȥQÊɳ ɉǛ ğäöÀÔÖQèɍä ğÀƬşǛ :(13 ŌÒÎöä) òÀÖQφɍä äÀüş ȜşÆȞöä øÆÔɳ àÀì āȥADZ Ž ȜÀƬÖä ɉÀĿQȝɍÀæ ÆõüǩБØöäş ǴĿȞÛÊöä ȻÀĿţäş ǴæÀQöä ɄĿ *ǴĿɳȥȝäÀöä ǴÀəäÂöä* ǨÀÂöä ŌĿY ţøäÂɳş äÀöä òȥŐǵ Ž ɁŸȝɉä áäÀÀQèɍä ğɍÆȞɳ ɁŸȝ òȥÔΣä Ź ·ÀĿèǛ ğÀèäøÆöä ÀƬŢǩ Àŧõ ·(ȻÀĿţä ğÀĿȝ ǨφÀõ ğäáÀÀQÊţä ȸɳ %33.3-%14.5) ĬȜÀÆǵ ǦȝşøÂţä ȸɳ ǨǨǛ ƁȥɳÆöä îäÀQöä øÀGQǹɍ ɁŸȝɉä Reactor ŌȝÀÀţä ğɍÆȞɳ ɉǛ ǴĿəÀæȥöä ǴĿDZȥöşǨÊöä ÀÛŧţä ŌÔÀöä òŸǹ ǴĿφäȥĿΣäş ǴÀÀÎGöä ȜşÆȞöä ϙÆƠ ·ĘüÀÀţä ŌŸǩ Ž ƙÀüÀÖöä şǛ ƙŸɳÀȞöä ÛǴĿȞÛÊöä ȻÀĿţä Ž ǥÆÀÆȝ ğäȥÀÊõ ĬĿǵ ɁŌGA ɉǛ ɄøGGÊöä ŌɳÀȞŸö ȸÒȣ ·ɄÊĿəø ŌÒÎæ ¢ǨÀGŸÛQɳ ÆGÊæ Ōöæş ÛǴφȥüȥţä ĘüÀÀţä ÀĿq ɄøQöä ǴGüÀöä ǥøÀΣä ǴÀĿGöä Ž ȤȝÀȒQA ɉǛ ȸÒȣş ·ǦŸĿŌöä ǴAşØ8Qöä

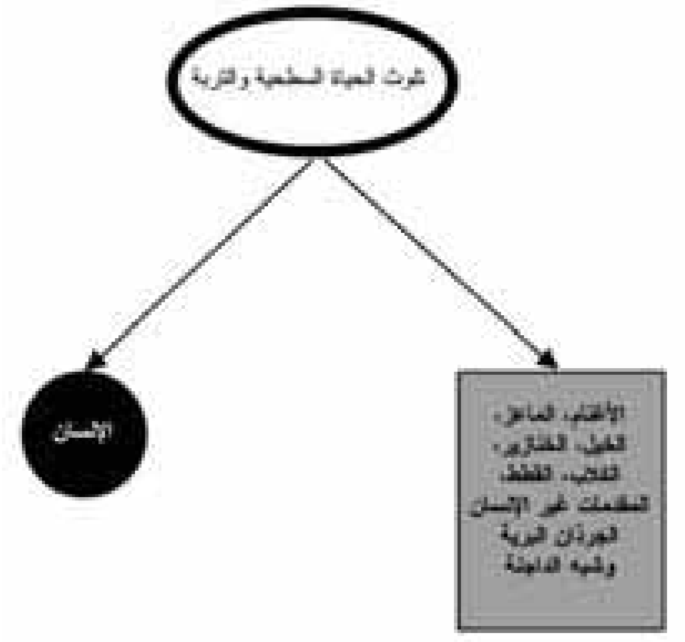
ȜşÆȞöä ɉǛ ÆŌQȞA ȸÒöş ·ɉÀÊφqä БǛ ɉäȥĿǵ ȸɳ şǛ ɉäȥĿǵ БǛ ɉäȥĿǵ ȸɳ òÀÖQφɍä ǨGǯA ·ÒÁì БǛ ÒÁì ȸɳ ŌŐQÀǩ Æę ğɍÀΣä ȒȞæ Ž

Æę ǴǨÀQèşƎöä āÀƬQöÀæ āÀÔɳ ĬĿÒAÀɳǛ ĬAÆADZ ɉǛ şÆGA ɄøQöäş ÛŸÀAQĿȥ Ž ǦöÀǵ БǛ ǴȥÀɍǛ ɉÀÖÊöä ƙæ ¢æ ¢GQÎɳ ôÀŧŸö ɄÊAƨä òÀÖQφɍä ɉǛ ÛgǛÀɳä БǛ ɄÊAƨä ĘÀÀÛöÀæ ôÀţä ŌŐφ ȳȥŐA ÛǴĿYGŐöä âȥŐÛöä ÆÊȞȥ ·ĬȒAǛ ɄŸèÀAQöä БȥGöä ȳȥȝäÀöÀæ ƙäÀÔţä ƙĿöäQèɉä ƙĿŸòɉä âÀŧQæ ĻQA ¢ŸȞżÀɰ ţÀŧƨÀæ ɉȥɳȥŌA Ź Ûclay ƙÛöÀæ ǴĿŸèÀAQöä ĻƬəÀȒȝǛ ȸĿÆæ ɉÀÖÊöä ŏɍüĿ .(Webling, 1980) ǴæÀQöä ȝɳ

ÛǴȣȥŸţä ȻÀĿţä şǛ ǴæÀQöä ȝɳ āÀŧQöä òŸǹ ȸɳ ȜşÆȞöä ğÀφäȥĿΣäş ÀÎGöä ÆÊQÒA ɉǛ ȝęȥQA ȻÀĿţä òşÀÀǩ şǛ øÀG8öä àÀÎAQèä òŸǹ ȸɳş Ûabrasion ǴAÆŸƨä ğÀDzȞÛÊöä òŸǹ ȸɳ ǴöÀǹş ŌÒÎæ ǴĿÆÔöä ǴAÆÀŢä āÀΣä òŸǹ ǴŸDzÊţä ǴÀÀÎGöä ğɍÀΣä áÆȝ ȝÀǩöä ·ĬȒAǛ ǴȣȥŸţä

şǕ ğǍǫÂȐĚÀôǞ ŏƱŸţǟ ƵÀÀôǟ øźǤǯ şǕ (Ōğźǟ) ƙÛôǞ ǡÀΣǟ dzşÀDZ ǫźŸǩ ĞDzĚǪ ûźHŸŋ ·ȧǻÀǏǟ Ž ǥÆÆţǟ ĞŋÀęqǟ

·ȯÀŎǪɍǟ ǟÀù ӯźǯǟÀôǟ :13 ŎȮÎôǟ




ĞÀÔţǟ ĞDzǯǟÂǟ : ô źHǤôǟş Û*Xenopsylla cheopis* Žźǐǟ ǏŸòǰǟ ǰǟǽÀƨǟ ǫźǯÀǞ ǰǕ ƵǯÀȐǪ ·ƎǪÅţǟ ğǍǫǟźĚğ БǕ ƱøǤÀΘ ŎȮÎǞ ʔşÆHôǟ ŎŎǫ ʔŸǯ ǰǟøǻÀę *Aedes aegypti* Ž ƙŸȽǪǂǟ (ĞŸŎÀôǟ) Ŏęǟźôǟ ȻǾȽ øşǻ ·ğǟÀÎΣǟ ȻǾT ƱȽȐTǟ ǟÀTƨǟ Ž ƱøǤÊôǟ ŎŋÀHôǟ ·ǥǻşÆȚ ĞĚƵǕ ǂô ǰǕ ÆŎǪHÀ ȡȮô ÛÆHǞ ǏĔŎÀ Ɓ ƱHĚǤÛôǟ ȯÀŎǪɍǟ

ǰÀÊǫqǟ ƙǞ ōÀǪÎŋ ôÀŋ ӯźǯǟÀôǟ ǰǕ şÆǤÀ : ôÀţǟ ğÀĚǝÀǟş Ž ğǍǫǟźĚΣǟ øşǻ ȡŋ ÀǯōǕ ŎǞ ·ÀȽȚĚŸȮô ʔşÆHŸô øǻÀÔŋş ğǍǯǻźǪÊȽõ ȻÀĚţǟş ĞǟÀǪôǟ ŎȽHǩş ÛğǍǫǟźĚǟş ĞĚźǟÀ8DZ ĘùÀÀŋ БǕ ƱøǤÊôǟ ŎŋÀHôǟ ŎŎǫ Ž ōÀźǫůõ ǻøşǻ ÆHŸǩ ğǍǫǟźĚΣǟ ǰǕ ÆŎǪHÀ ·Ōôǟ ·ǥÆÀÆDZ

ȣǟÀHǪèǟş ǻǟÀÀǪèǟ ƱŁ ȯÆƨǟ ŎǤŎǩ ɍ ƱøǪôǟ ǥÆĚǥźôǟ ĞĚÔĚÅÎǪôǟ ĞŎÀÛôǟ :ÒĚÅÎǪôǟ ȡŋ ĞĚŋźǯǟÀôǟ ĞÀǯǟÂǟ ǻǟÀÀǪèǟ ȡȮƺ ·ĞHĚǤŎôǟ ǴĚŎŸǪǞ şǕ ÀìÀǤţǟ ţøÂôÀǞ ÀŋǕ ƱøǤÊôǟ ŎŋÀHôǟ

[illegible] Allergenic [illegible] (Appasskaj *et al.*, [illegible] 160: 1 ≤ [illegible] .1990)

.(Dance, 1991) [illegible] (1993) [illegible]

[illegible] ELISA [illegible] %49.3 [illegible] antitoxin [illegible] %6 [illegible] .(Ismail *et al.*, 1991) [illegible]

[illegible] (Boot [illegible]) [illegible]

[illegible]

Appassakij, H., K.R. Silpapojakul, R. Wansit, M. Pornpatkul. Diagnostic value of the indirect hemagglutination test for melioidosis in an endemic area. *Am J Trop Med Hyg* 42:248–253, 1990.

Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Biegeleisen, J.Z., Jr., M.R. Mosquera, W.B. Cherry. A case of human melioidosis. Clinical, epidemiological and laboratory findings. *Am J Trop Med Hyg* 13:89–99, 1966.

Currie, B. Medicine in tropical Australia. *Med J Aust* 158:609, 612–615, 1993.

Dance, D.A. *Pseudomonas pseudomallei*: Danger in the paddy fields. *Trans R Soc Trop Med Hyg* 85:1–3, 1991a.

Dance, D.A. Melioidosis: The tip of the iceberg? *Clin Microbiol Rev* 4:52–60, 1991b.

Dance, D.A., C. King, H. Aucken, *et al.* An outbreak of melioidosis in imported primates in Britain. *Vet Rec* 130:525–529, 1992.

Galimard, M., A. Dodin. Le point sur la melioidose dans le monde. *Bull Soc Pathol Exot* 75:375–383, 1982.

Hubbert, W.T. Melioidosis: Sources and potential. *Wildl Dis* 5(3):208–212, 1969.

Ismail, G., R. Mohamed, S. Rohana, *et al.* Antibody to *Pseudomonas pseudomallei* exotoxin in sheep exposed to natural infection. *Vet Microbiol* 27:277–282, 1991.

Kanai, K., S. Dejsirilert. *Pseudomonas pseudomallei* and melioidosis, with special reference to the status in Thailand. *Jpn J Med Sci Biol* 41:123–157, 1988.

Kaufman, A.F., A.D. Alexander, A.M. Allen, R.J. Cronkin, L.A. Dillingham, J.D. Douglas, *et al.* Melioidosis in imported nonhuman primates. *Wildl Dis* 6:211–219, 1970.

Ketterer, P.J., B. Donald, R.J. Rogers. Bovine melioidosis in south-eastern Queensland. *Aust Vet J* 51:395–398, 1975.

Ketterer, P.J., W.R. Webster, J. Shield, *et al.* Melioidosis in intensive piggeries in south-eastern Queensland. *Aust Vet J* 63:146–149, 1986.

Laws, L., W.T.K. Hall. Melioidosis in animals in north Queensland. IV. Epidemiology. *Aust Vet J* 40:309–314, 1964.

Piggott, J.A. Melioidosis. *In*: Binford, C.H., D.H. Connor, eds. *Pathology of Tropical and Extraordinary Diseases.* Washington, D.C.: Armed Forces Institute of Pathology; 1976.

Piggott, J.A., L. Hochholzer. Human melioidosis. A histopathologic study of acute and chronic melioidosis. *Arch Pathol* 90:101–111, 1970.

Redfearn, M.S., N.J. Palleroni. Glanders and melioidosis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man.* 6th ed. Springfield: Thomas; 1975.

Smith, M.D., V. Wuthiekanun, A.L. Walsh, T.L. Pitt. Latex agglutination test for identification of *Pseudomonas pseudomallei*. *J Clin Pathol* 46:374–375, 1993.

Strauss, J.M., M.G. Groves, M. Mariappan, D.W. Ellison. Melioidosis in Malaysia. II. Distribution of *Pseudomonas pseudomallei* in soil and surface water. *Am J Trop Med Hyg* 18:698–702, 1969.

Sutmöller, P., F.C. Kraneveld, A. Van der Schaaf. Melioidosis (*Pseudomalleus*) in sheep, goats, and pigs in Aruba (Netherlands Antilles). *J Am Vet Med Assoc* 130:415–417, 1957.

Thomas, A.D., J.C. Forbes-Faulkner. Persistence of *Pseudomonas pseudomallei* in soil. *Aust Vet J* 57:535–536, 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Melioidosis—Pennsylvania. *MMWR Morb Mortal Wkly Rep* 25:419–420, 1977.

Webling, D.D. Genito-urinary infections with *Pseudomonas pseudomallei* in Australian aboriginals. *Trans R Soc Trop Med Hyg* 74:138–139, 1980.

White, N.J., D.A. Dance, W. Chaowagul, *et al.* Halving of mortality of severe melioidosis by ceftazidime. *Lancet* 2:697–701, 1989.

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## NECROBACILLOSIS ăƥǬǁǁƐ ƅǰƬǱǁƐ

ǌƥǬǀ ƕĭƳǋ ƕĭƊǋƙƥШ ƒ ƐƥǅǄ ICD-10 A 48.8

**ICD-10 A48.8 other specified bacterial diseases**

.Calf diphtheria ȯƺǅǶä ȧÀǹ Ûschmorl ȯǿƺƼ ğÀÔȝ ŏäá ˑğÀƺåäÀƫä

ꞅ ǦɋƺǬǬɳ ƘɋǦÔȝ ɄĿȘ *Fusobacterium necrophorum gÀǹÀä ǦÈÂ8ƫä* ˑğÀǦǦÊöä ƫƺǍǩ .*Bacteriodaceae ğÀƺÔǶä* ǦǮÔƺ ȸɳ ȳäÀ8öä ǦǦèȘ ȯÀÔї ɉä gåÆǶɳ gƎƒ ǦÈäƺĿ ğɎȶǪÎɳ ȝɳ ȓƺǹ ƂǕ coccoid ǦǨäǿƺÒɳ ȯÀÔїǕ ȸɳ ȧÀƫä ƫȘǿä Ž gÀǹÀöä ǦÈöÂ8ƫä ȷƺȮɳ ǈǪäÀƨä ȻǾĿ ·ǿÀɋǿä ƫȘǿä Ž ȝƺǏї ÀǮõǕ Û(Rod ǦÀƺÔǶä) ǦǨƺǦÀöä ȯÀÔї ɉä ·ǦǦǦǵ ȷÊǾRö ɄǮèÀǪöä ƃƺǦöä ŌǦÊöäȘ ɃƺǶƫä ɃÆǶƫä ŌǦÊǮöȘ ǈÀǮö ɃƺÊöä ǨǦÀöä ȸɳ ·ğÀǾäƺǶǮöȘ

ÀȚÀÒö ÛǾȘɎüǕ ǦȓÀư Ƙɋ ȘǕ ǮǮȘ ǦȓÀư ÜȷäÀÀǮö ǦȓÀư ˑǦÀǮǪƯ Ǧȝƺƺ ğÀƺ ɃǿäǾǮö *ǦäåÀÒä ǦÀÄǺä ǦäÀÒä* ÖäÀè ǨǦƧ) ǦǯäǪ Ǧƺ ÜƂȘɉä ǦÀÀöä ŌǯɳÛȳÆǮö ǦöÀǵ gÀÀü ǪÆƠ Æȩ ·ǦȓÀư ǨÊǦöȘ ȳÆǮö ǦöÀǵ ǨÊǦö (*Sphaerophorus pseudonecrophorus* ŌǦȩ ÀäÀǺƫä Ž ǈǪäÀƨä ȻǾĿ ȣäÀǶèä validity ǦȩȘÆÔɳ ·ɁÀǹǕ ƂǕ (ǿƺü) Ǧƺ ȸɳ (ȯƺƠ)

.(Holdeman *et al.,* 1984) ȯÛÀÊǩ ȝȓƺɳ 1970

Æȩ ÛɃÀǺǻä ŏÀÔǶä Ž ÀȶȚɳ ÀȓÀư ǿȘá *Bacteriode ǦƺÔǶä* ȸɳ ǦÀǮǪƯ ƫäƺǾǕ ÆǶǮǩ ǦÈÂ8ƫä ȝɳ ȘǕ ÛȷÀÊǾqä Ž ǦöÀǹ ÛÈÀƨä ÈÀǾ ȸɳ ɁÀǹǕ ƫäƺǾǕ ȝɳ ǦǾÀǪÒɳ ȘǕ gåÀÀɳ ÀȚȚǩ ·ȳäÀ8öä ɄǿǦǮè ȟƺǦǪÀ ꞅ ɃǿÀǦƊǕ ɄäƺĿ ꞅ ÀȒÀǕ ƺĿ *ǦƺÔǶä* ƫƺǾ ·ğÀǾäƺǶΣä Ž gÀǹÀöä ǿǹüǩȘ ǦõÀǶǪɳ Ƙɋ ǈǪäÀƨä ȻǾĿ · ȋ Àǹ ŌȮÎä ȳÀɋɉä ǦȓäÀɳǕ Ž ǦȶȚɳ gÆǶöä *ǦƺÔǶä* ·ğÀǾȘÀÒɳ 6 ƂǕ 3Ș 1.7 ƂǕ 1 ȸɳ ÈǾǩ ÛƵÀǹ ŌȮÎä ǦÀǶÀɳ ȘǕ ǦȶǪÊɳ ğÀƺǾ ŌȮї (Holdeman *et al.*, 1984) ǦÀǺǪ ğÀÀŒ ÀȚ ȷƺȮÀ Àɳ ǦöÀɋȘ ÛȝäȘäǕ ȸȶȓ ȘǕ gåÀÀɳ ȘÆǨ

[illegible] (Fimbriae [illegible]) [illegible] Pili [illegible] .Hooves [illegible] 20-16 [illegible] 9 [illegible] .(Gradin *et al.*, 1991) [illegible]

[illegible] Kirby) [illegible] .(*et al.*, 1980 [illegible]

[illegible]

[illegible] Foot rot [illegible] .(Timoney *et al.*, 1988) [illegible]

[illegible]

.(Islam and shneerson, 1980)

%1

%2

.(Seidenfeld *et al.*, 1982)

*prophyromonas*

.(Jonsimies-Somer and Finegold, 1991)

(Jonsimies-Somer & Finegold, Imipenem

.1991)

interdigital

[illegible]
*Corynebacterium* [illegible]
[illegible] *pyogenes*
[illegible]
.(Cottral, 1978) Lenkocidin [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]
[illegible]
.(Berg and Loan, 75) [illegible]
[illegible]
*Timoney et al)* [illegible]
[illegible] .*(1988*
[illegible]
[illegible]

[illegible]
[illegible] 19 [illegible] 39 [illegible]
[illegible] 18) [illegible]
[illegible] %26 [illegible]

[illegible] .(Finegold, 1982) [illegible]

[illegible] .(Bartlett and Finegold, 1974) [illegible]

[illegible]

[illegible]

[illegible]

[illegible] .(Finegold, 1982) [illegible] (Guario *et al.*, [illegible] .1982)

[illegible] .%10 [illegible] %10 [illegible] %5 [illegible]

[illegible] .(Piberio, 1980) [illegible]

[illegible] 9 [illegible] 16 [illegible] .(H [illegible] A [illegible]) [illegible] .(Stewart *et al.*, 1983 a) [illegible] .(Stewart, 1983 b)

[illegible] Feedlot [illegible] .(Timoney *et al.*, 1988) [illegible]

[illegible]


Bartlett, J.G., S.M. Finegold. Anaerobic infections of the lung and pleural space. *Am Rev Resp Dis* 110:56–77, 1974.

Berg, J.N., R.W. Loan. *Fusobacterium necrophorum* and *Bacteroides melaninogenicus* as etiologic agents of foot rot in cattle. *Am J Vet Res* 36:1115–1122, 1975.

Claxton, P.D., L.A. Ribeiro, J.R. Egerton. Classification of *Bacteroides nodosus* by agglutination tests. *Aust Vet J* 60:331–334, 1983.

Cottral, G.E., ed. *Manual of Standardized Methods for Veterinary Microbiology*. Ithaca: Comstock; 1978.

Finegold, S.M. Anaerobic bacteria. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Gradin, J.L., J.A. Stephens, G.E. Pluhar, *et al.* Diversity of pilin of serologically distinct *Bacteroides nodosus*. *Am J Vet Res* 52:202–205, 1991.

Guarino, H., G. Uriarte, J.J. Berreta, J. Maissonnave. Estomatitis necrobacilar en terneros. Primera comunicación en Uruguay. *In:* Primer Congreso Nacional de Veterinaria, Montevideo. Sociedad de Medicina Veterinaria del Uruguay, 1982.

Holdeman, L.V., R.W. Kelley, W.E.C. Moore. Anaerobic gram-negative straight, curved and helical rods. *In:* Krieg, N.R., J.G. Holt. Vol I. *Bergey's Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Islam, A.K.M.S., J.M. Shneerson. Primary meningitis caused by *Bacteroides fragilis* and *Fusobacterium necrophorum*. *Postgrad Med J* 56:351–353, 1980.

Jousimies-Somer, H.R., S. Finegold. Anaerobic gram-negative bacilli and cocci. *In:* Ballows, A., W.J. Hausler, Jr., K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Kirby, B.D., W.L. George, V.L. Sutter, *et al.* Gram-negative anaerobic bacilli: Their role in infection and patterns of susceptibility to antimicrobial agents. I. Little-known *Bacteroides* species. *Rev Infect Dis* 2:914–951, 1980.

Ribeiro, L.A.O. Foot-rot dos ovinos: etiologia, patogenia e controle. *Bol Inst Pesq Vet Finamor* 7:41–45, 1980.

Seidenfeld, S.M., W.L. Sutker, J.P. Luby. *Fusobacterium necrophorum* septicemia following oropharyngeal infection. *JAMA* 248:1348–1350, 1982.

Stewart, D.J., B.L. Clark, D.L. Emery, J.E. Peterson, K.J. Fahey. A *Bacteroides nodosus* immunogen, distinct from the pilus, which induces cross-protective immunity in sheep vaccinated against footrot. *Aust Vet J* 60:83–85, 1983a.

Stewart, D.J., B.L. Clark, J.E. Peterson, D.A. Griffiths, E.F. Smith, I.J. O'Donnell. Effect of pilus dose and type of Freund's adjuvant on the antibody and protective responses of vaccinated sheep to *Bacteroides nodosus*. *Res Vet Sci* 35:130–137, 1983b.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

Walker, R.D., D.C. Richardson, M.J. Bryant, C.S. Draper. Anaerobic bacteria associated with osteomyelitis in domestic animals. *J Am Vet Med Assoc* 182:814–816, 1983.

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## NOCARDIOSIS ŀƑĭǫƥƑǀǋǆǁƐ ƀƐǫ

**Üăǫǂǁǁǁ ŀƑĭǫƥƑǀǋǆǁƐ ƀƐǫ A43.1 Ûăǋǝƥǁǁ ŀƑĭǫƥƑǀǋǆǁƐ ƀƐǫ :ICD-10 A43.0**

**ŀƑĭǫƥƑǀǋǆǁƐ ƀƐǫ ǄǅǄ ǌƥǪƈ üƑǀƪƈ A43.8**

**ICD-10 A43.0 pulmonary nocardiosis; A43.1 cutaneous nocardiosis; A43.8 other forms of nocardiosis**

*ĞĢŤŸţă ĢǺøÅõǯÅöă ÛĞŸǡăĦöă ĢǺåøÅõǯÅöă ÛĞĿŁǄǅÅöă ĢǺåøÅõǯÅöă* ·ĞȑÀư ţăǯǭǘ ĞǫŸǭ ˙ğÆĢĢÊöă

·ŧÛŁÅöă ţǯÅöă ŧĿ Ƃşǰă ğƎǬǯă ·(*ĞĦĦĢÕöă ĢǺåøÅõǯÅöă*) *ĞĦĢÕöă Ɉæɉ*

[illegible] Actinomycetales [illegible]

[illegible] (Pier 1997; Land *et al.*, 1991) [illegible] .(Land *et al.*, 1991) [illegible]

[illegible] (Beaman *et al.*, [illegible] %81.2 [illegible] 1974-1972 [illegible] 1000-500 [illegible] .1976) [illegible] %3 [illegible] %5.6 [illegible] %10 [illegible] .1: 3 [illegible] 50 [illegible] 21 [illegible]

[illegible] Monkeys [illegible] 26 [illegible] 1980 [illegible] 1976 [illegible] 34 [illegible] .(Orchard, 1979) [illegible]

[illegible]

.(Lerner, 1991) [illegible] %30 [illegible] %20 [illegible] %50 [illegible] .(Bradsher *et al.*, 1982) [illegible]

[illegible] 62 (1982) [illegible] 46 [illegible] 62 [illegible] 6 [illegible] .Mycetoma [illegible] 8 [illegible] 43 [illegible] 19 [illegible] %83 [illegible]

[illegible] .(Benenson, 1990) [illegible] (%85) [illegible] .(Beaman *et al.*, 1976) [illegible]

(Beaman and Sugar, 1983)

6

Beaman and Sugar,)

.(1983

%30

Macaqe

(Menestrina

5 БȿɉǟƷÄƫǟ ğÄõǣ .(Liebenberg and Giddeaus, 1985) ǋÄǟ ȨÄù ȸ ȻȿÆǫÄ ǦǫŸǭ Ž ǦÄζǝÄǟ ğÄζǿǟ ğÆǮȿ ·ǦȞřζɳ ȻȿÆ ÄȾÄɳ 4 ȻÆǫ ɈÄõ ÛÈÄÊÄǟ Ž ğɍÄǵ (*Papio* ζǟÄ ƫζǫ) Baboon ǳζÄø ÆÄ ȸɳ *ǦǱǦÕǟ ɈǽɉǦǦȾŸƫǟ ǦÄǻøÄõζÄǟ* ğǻÄÄǫèǟ ·ÄȾÄɳ ƙǫǝÄǟȿ ƙÒÄǟȿ ȟÄɳÆǟ Ž ğÄζǕ ÄƭȾÄÆǫ (*ɄɳÂΣǟ õÄÒƫ*) Cynomolgus ɄǵȿǻÄȩ õÄÒɳȿ òζÛƫǟ õÄÛǫǟ ɄȽ ǥØǦǂǟ ǦƨÄǫƫ .(Liebenberg and Gidden, 1985) ÆǦÒǟȿ ÆŸÕǟȿ ·ǦǦÄÕǩ ƷÄèǕ ǦǫÊǫ òȿǟÄÊÒƨǟÄǩζÒŸǫ

ɈζÒǩ ·ɃζÊǟ ǦǟÄǫǟ ǨǦǫ ğÄǫζÒɳ ȸɳ ğÄǻøÄõζÄǟ ˙òÄÕǫɍǟ ǟÄùȿ ȻȿÆǫǟ øÆÔɳ øζù òŸǹ ȼÄɳ ɄƭǫÄøÄȡζŸǟ ζƭÄǟ øζù òŸǹ ÛǨǰÒǣȿ ÛǦƷζζ ÄǰõǕ ǦÄɳÄÒǟ ȒÄøÄƭƫǟ ȻØȽ ɈÄÊǫȒǫ ǦƷζζ ÄǰõǕ òÄǫζ ŌÒÎǣ ǦǣÄǫǟ Ž ζƭÄǩ ɄøǫǕ ɈǕ ÆÕǫÄȿ ·Stationary øǟÄÕǫèɍǟ øÄǦǟ ǻÄÎÄǫèÄǣ ȻȿÆǫǟ ɈÄÊǫǫǟ ÆÊǫÒÄ ɈǕ Ōƭǫǂǟȸɳḁ·(Orchard, 1979) ğÄǫǟζǦΣǟȿ ȋÄÂìǕ ÆÄ ǫÆơ ğɍÄΣǟ ǋȚǫɳ Ɉɉ ȏÄƫǟ ȏǟÄɳǕ Ž ǦƭȾɳ ǦǦèÄƫǟ ŌɳǟζǫǕ ·ǫζŸƫǟ ƙǣ ǦǦìÄζ ǫȿÆǵ Æõζǩ ·ǦƷÄÄƭŸǫ ǦǫǣÄõ ǦÄȿǻǕ ɈζǫȿÄÄǫ ȿǕ ɄƷÄƫǟ ǟÄȾƨǟ Ž ǟζƷ ǋȾÄÆǫ ǦζÄǦǟ øÄǦȡ ȸɳ *ǦǦƭǮÄǟ ǦÄǻøÄõζÄǟ* ȸɳ ǦÄøǣ ğǻÄÄǫèǟȿ ÛǦǦŸÕǟ ƫøÂǫ ǥÆǵȿ Ž ȼřÄɳ ȸɳ *ǦǦÄǟǟǟ ǦÄǻøÄõζÄǟ* ȸ ǦƟÄÄǟ ǦÄÛÄǟ ǉǟøȿɉǟ ǋǮÄǩ Æȩ ·(Lerner, 1991) ·ÄȾǝǟζȽȿ ÄǰõɉǟȨÄÛǟ ·*ǦÄǻøÄõζÄǟ* ƫǟζǫǟ ǦǟÄǫǟ ÈɳŸǩ ɄøǫǕ ǳζȿÄƨǟ ɃÆÄǩ Æȩ ·ÆŸǮŸǫ Ǵřø ȿǕ ēÆǹ ȿǕ ÄÄȿ ȿǕ ǦõζÎǣ ÆŸǮŸǫ ɄǶřÄǟ ǴǦÕŸǫǟ ζȽ *ǦǦÄǟǟǟ ǦÄǻøÄõζÄǟ* ȻȿÆŸǫ ǆƷζǦì .(Smego and Gallis, 1984) ǻÄǵ

ǟÄȾǫǟ ǋǮÄÄ ·ɈÄÊǫǫǟ ÆÄ ǦÕÄÛǟ ÈÄǣ ǦÄζǝÄǟ ȻȿÆǫǟ ğÄǫǟζǦΣǟ ÙÕǫǩ ɈǕ Ōƭǫǂǟȸɳḁ ɃØǟ ɃÆǰǟ ǟÄȾǫǟ ÄɳǕ ·ƘùÄǰÕǟ ǫζŸǩ ǦǮǦǫ ƫÄřøǫǟ ǦŸǵÄɳ Ž ǆÕǵɍ ǫǻÄΣǟ ɃÆǰǟ ȻȿÆǫǟ ǥøùǣ ɈζÒǩ ɈǕ Ōƭǫǂǟȸɳȿ ÛǨƘÊÄǩ ǆÆǮ ÆǫÔǟ ȸƭζ ƫÄřøǫǟ ǦÄÄǣ Ž ǫÆ ŌÒÎǣ ȻȿÆǫǟ ğÄÎǫǟ ǝŸÄǣ ƫÄȒǟ ǪǫɳǕ ÄɳÆȿ ÛƷřÄƫǟ ƘȡǥÄÕǦǟ Ž ǆÕǦÊɳ ǥǻζǮζɳ (Beaman and Sugar, ǦÄÄè ǆřÄƷǕ ǨǦèȿ ǝŸǟ ğǟζÄȩ òŸǹ ȸɳ (ŌƷÄζ ɍ) ǑǫÄÄɳ ȸ ǆȒÄǫ ɈζÒÄ Æȩ ȼÒǫȿ ÛǆȒɳÄȡ ǆè ǦǝǟÆǫɍǟ ȻȿÆǫǟ ǖÎÄɳ ȼÕǦ ˙Òõ ȼŸ ·1983) - *ǦÄǻøÄõζÄǣ* ǫÆǂǟ ɃÆǰǟ ǟÄȾǫǟ ȸɳ ǥǨǰÕǟ ğɍÄΣǟ ȻÄǫǩ ·ǆȒÄǕ ǦǫζŸɳ ğǟȿǻǕ òÄǹǻǕ

[illegible]

[illegible]

[illegible] 55 [illegible] (Angeles and Sugar, 1987) [illegible] 54 [illegible] (Boiron & Provost 1990) [illegible]

[illegible] (Pier, 1979) [illegible]

[illegible]


Angeles, A.M., A.M. Sugar. Rapid diagnosis of nocardiosis with an enzyme immunoassay. *J Infect Dis* 155:292–296, 1987.

Beaman, B.L., J. Burnside, B. Edwards, W. Causey. Nocardial infections in the United States, 1972–1974. *J Infect Dis* 134:286–289, 1976.

Beaman, B.L., A.M. Sugar. *Nocardia* in naturally acquired and experimental infections in animals. *J Hyg* 91:393–419, 1983.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Boiron, P., F. Provost. Use of partially purified 54-kilodalton antigen for diagnosis of nocardiosis by Western blot (immunoblot) assay. *J Clin Microbiol* 28:328–331, 1990.

Bradsher, R.W., T.P. Monson, R.W. Steele. Brain abscess due to *Nocardia caviae*: Report of a fatal outcome associated with abnormal phagoctye function. *Am J Clin Pathol* 78:124–127, 1982.

Forbes, G.M., F.A. Harvey, J.N. Philpott-Howard, *et al.* Nocardiosis in liver transplantation: Variation in presentation, diagnosis and therapy. *J Infect* 20:11–19, 1990.

Land, G., M.R. McGinnis, J. Staneck, A. Gatson. Aerobic pathogenic *Actinomycetales*. *In*: Balows, A., W.J. Hausler, K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*. 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Lerner, P.L. *Nocardia* species. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Liebenberg, S.P., W.E. Giddens. Disseminated nocardiosis in three macaque monkeys. *Lab Animal Sci* 35:162–166, 1985.

Orchard, V.A. Nocardial infections of animals in New Zealand, 1976–78. *N Z Vet J* 27:159–160, 165, 1979.

Pier, A.C. *Actinomycetes*. *In*: Stoenner, H., W. Kaplan, M. Torten, eds. Vol 1, Section A: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1979.

Smego, R.A., H.A. Gallis. The clinical spectrum of *Nocardia brasiliensis* infection in the United States. *Rev Infect Dis* 6:164–180, 1984.

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## PASTEUREELLOSIS ǀǗǏƥǋƗƨǱǦǁ ƅƐǭ

**ICD-10 A28.0**

ɃǫǝÀǟ ǟÀǮǪǰǖ ÛɃÀǑǦǟ ɄÊÀǪǟ ǟǼǟ ǼǑȞǬ ÛShipping ȸƕÎǟ ʔƥ ˸ğǫǟÀƫǟ ÛǦǏÀƫ) ŽÂøǟ ǿǼǟ ȷǪǫ Û(ȷŸȶΣ) ǦŸǿǫǪèǦǟ ɃǫǝÀǟ ǟÀǮǪǰǖ Û(ǦǏÀƫ) ɄøǼƎǟ (ƸǫǰǕ ȸǬ ŌÊΛ ɃǾǟ ǄǫȩÀǟ ȓÀÁƫ) Shuffles ȷǫǾǟ ÛǿǫÛǟ ǟĶǫǒ (ȷŸȶΣǟ .(ÆǫǿǰǕ)

ȸǬ ǫǼǟ ƙǅǒ ˸ǫǼǟ ǟÀèÛ ʔŸʒ pasteurel *ǦǿǫǪèǦǟ* ÈǄ ƸǏÔǨ ǼʒÛ ˸ğǦÊǟ Û(Mutters *et al*,. 1985) ǦȓǪǫƫ şÛ ǦȞçǪƫ ǦŸǪÁƫ ƫǟǫǪǬ ǦǼƨǟ ǦçŸȞǟ ǼǼƠ ŌǄÛ ˸ɄȽ ǟȽ ǦȶƬƫ ƫǟǫǰǕ ˸ǟʒǫ 11 БÛ ÈǟƨǟǨ ȽÊç ÛǦèǟǿǼǟ ÕŸǨ ǰǝǪǫ ʔŸʒ ǟǟȶǪʒǟş *ÛǦǦŸÒǟ ǦŸǿǫǪèǦǟ Û*Dagmatis *ǦǼȶȡǼǟ ǦŸǿǫǪèǦǟ Û*multocida *ǦǟǪǑǟ ǦŸǿǫǪèǦǟ* ȷÛ ÆƶşÛǼǄ ǟǼǥ ǨÀòş ǼçşCaballi *ǦǫÔΣǟ ǦŸǿǫǪèǦǟ ÛǦǫȶǟ ǦŸǿǫǪèǦǟ*

.(Schater *et al*., 1989) ǟȽ ȣÀȒǨ

*ÈÀÅ* ÌùÀǴǩöä Ä3õÜ ƟĿş ÛJÀÊǵRö ÌǵÀǵgÜş Ûğ ÀǵäźĦÙÝö ƮÏŋ ôäÀư *ÿÆÝö ǴöÌΣä ǴÝÀøźϘèÀǴöä* (Mutters *et* ÕǴÖϘÊţä Ž generic î ÀϞä ÈĦÀƨä ÀÏƧä Øǹüǩ Æęş *ActinBacillus ǴĤÎĤÎţä* .*al*., 1986)

ÙŧÀöäş A ɃźĦΣä ÙŧÀöä ȸŋ ɃøäøØöä ƙä ÀǵÆöä ƙDző ˙ÀǵÆöä dzşäÀϘÀ ˙Õöæ БÜ ǴźÀȑÜ ÕöØæş ·3DZÀŋ ǴÀøØõ ÿÆÀϘÊţä ɃźĦΣä ÙŧÀöä ÆÊǵ ÛÙÕź %13 БÜ %3 ȸŋ AĈɃźĦΣä .(Bingharr *et al*., 1990) ƙÝÔÀŋ ƙ3źÀõ ÀÀÔÀ JÜ Æƶ JÀźĦǵ JÀÛy̆ õÀĿ ·ǴƨÀĦţäş ÒĦÁÎϘöäş ǴĦǝÀäźöä ǫźĦǴöä Ž ÆĦæ Ǵȑźǩ Ɓ ƵĦÀÔϘöä ǵåÀ3Ü ÀÀäÂŋ 3ŋ ÛǴȡźǴϘŋ Ƙȡ ÛÿäÀ8öä ǴĦǴÝè ÛǴõÀĦϘŋ Ƙȡ ÛöÀÒǐ Ɉä ǵåÆĤϘŋ ǵK8ö *ǵÀÆÔ3 ğŸÌøźϘèÀǴöä* ·ǴĦǝÀĦŧĦÒöäş ǴĦǝÀÀÂĦÀöä ÕŋäźĤÝö ǴÝĦÝę ǴŋşÀÕŋş ƙǴÛÕöä ȸÀźÝǩ ǴĦǵÀǵ ȸŋ ƮÏŋ ǴĦÝÔŋ ȓÀyÜ БÜ *ÿÆÝö ǴöÌΣä ǴÝÀøźϘèÀǴöäş ǴöÀϘÕöä ǴÝÀøźϘèÀǴöä* ƮĦÊÕǩ ǴĦÝÔŋ ȓÀyÜ БÜ *ǴöÀϘÕöä ǴÝÀøźϘèÀǴÝö* Ƀ3ÀÀöä ƵĦÀÔϘöä ÆŧϘĤÀ ·(ğÀǵÀÖÝöä) ǴĤźÀÒţäş ğÀĦǝÀäźöä ƵĦöäźϘæ ǵKǹɈä ǫÆƠ Æęş Û(16-1) ǴÀÆÊƨäş (E, D, B, A) ǴĦȚÀƗä ğäÆȒϘÊţä ɁÝ3 ·ÀĦÝÔŋ ÀÛy̆ 15ş (T ş A) ƙÀźĦǵ ƙÛy̆ БÜ *ÿÆÝö ǴöÌΣä ǴÝÀøźϘèÀǴöä* ǨŧÊę ·ǴÀÝϘƯ

ƁÀĤöä Ž *ÿÆÝö ǴöÌΣä ǴÝÀøźϘèÀǴöäş ǴöÀϘÕöä ǴÝÀøźϘèÀǴöä* ȸŋ Õõ ÀÎϘÀǩ ˙ŽäÀ8ƨä ţäźϘöä ÛÀőÀ3äźϘÊŋ ɁÝ3 ĦåÀŧϘ3äş ÛȸÒöş ÛÕęÜ ǴDZøÆæ 8şÀĤŧź ȜÀǹɈ ţäźǵɈä ţäźǩ ÀŋÜ ·ǴÀèüæ ·JäÆÝǴöä Õõ Ž ǵåźDZźŋ ÀǼüæ ôäÀϘźɍä ȸÒƺ

ÕÒÎæ 8şÀĤŋ ¢3źęşş ŊĦÝǴϘöä ÆDZäş ĦȓÀŋ ÈĦö źĿş ÛøåÀǵ ˙JÀÊǵqä Ž ǫşÆΣä БÜ 1956 ȸŋ ɁŧȚĤöä ÀĦǵÀÛÀÀæ Ž ǨϘÆǵ ǴöÀǵ 822 õÀĿ ǴÀƎϘÁţä ğŸDzÊöä ÆÊǵş ÛÕĦÝę *ǴöÀϘÕöä ǴÝÀøźϘèÀǴöä ȸ3* ǴƤÀǵ ǴöÀǵ 316 åźDZş ǵÆĤϘţä ğÀȑźöä Ž îÀǹ ǴÊŋ ÀÏşÜ ·1965 ȜÀǹÜ JäÆÝæ Ž ɃÀÎǴöä ğŸÌøźϘèÀǴöä õäå ǫşÆǵ öźǵ ğÀĦÛĤţä ·1968 БÜ 1965 ÿÀ3 ȸŋ ·øåÀǵ *ÿÆÝö ǴöÌΣä ǴÝÀøźϘèÀǴöä* ȸ3 ƮDZÀÀöä ôÀţä ·ǵøåÀǵ

·øźĦÛöäş ğÀĦÀÆ3öä ȸŋ ǴÀƎöäş ǴÀDZäÆöä ţäźǵɈä Ž 3ǝÀǐ ˙ğÀǵäźĦΣä Ž ǫşÆΣä

*ǴÝÀøźϘèÀǴöä* źĿ ɃÀÎǴöä ğŸÌøźϘèÀǴöä õäÆö ƟÊĦǝÀöä ƟøǴǴÊöä ÕŋÀĤöä ˙JÀÊǵqä Ž ôÀţä Ž Ǵ3øÂŋ 56 ÒĤź Ź ·ÀÎǴöä Æ3 ôÀţä Ž ÕęÜ ǴDZøÆæ ȜÀǹɈä ţäźǵɈä õøÀÎǩ ·*ǴöÀϘÕöä*

[illegible] 11 [illegible] 26 [illegible] 1 *dagmatis* [illegible] 4 [illegible] 12 [illegible] (T) 2 [illegible] .(Bisgaard and Falsen, 1986) [illegible]

[illegible] .(Kumar *et al.*, 1990) [illegible] 21 [illegible]

[illegible] 27 [illegible] .(Wong *et al.*, 1992) [illegible] .(Rollof *et al.*, 1992) [illegible]

[illegible]

[illegible]

[illegible] 20 [illegible] 10 [illegible] .(Bjokholm and Eilard) [illegible]
[illegible] 5 [illegible]
.(Ewing *et al.*, 1980) [illegible] 4 [illegible]
[illegible]
[illegible] 40 [illegible]
[illegible]
Kumar *et al.*,) [illegible]
.(1990

[illegible] Fauces [illegible]
[illegible]
[illegible] B: 6 [illegible]

[illegible] (Irwin *et al.*, 1979) [illegible]

[illegible] *Paramyxovirus* [illegible] (PI3) [illegible]

[illegible]

[illegible] Rinderpest [illegible]

[illegible] Bison [illegible] (Carter, 1982) [illegible] 1967 [illegible] Sialorrhea [illegible] 6: E [illegible] 6: B [illegible]

[illegible] 2 [illegible] A [illegible] (P13) [illegible] (Fraser *et al.*, 1982) [illegible]

[illegible] A [illegible] (Gillespie and Timoney, 1981) [illegible] 120 [illegible] 860 [illegible] (%11) [illegible] (%16) 2 [illegible] (%22) 1 [illegible] A [illegible] (Colin *et al*., 1987) [illegible] %27 [illegible] (%7) 9 [illegible] 5 [illegible] (Blood *et al*., 1979) [illegible]

[illegible] (Hog [illegible] Hepatization [illegible] 3:A [illegible] (Pijoon *et al*., 1983) [illegible] D [illegible]

[illegible] *Bodetella bronchiseptica* [illegible] (Rutter, 1983) [illegible]

[illegible] gnotobiotic [illegible] (Rhodes *et al*., 1987) [illegible]

.(Dominick and Rimler, 1986)

.(Verma, 1988) %40 2: B

Coryza

(%50) 26 52

%6 %70

.(DiGiacomo *et al*., 1999)

%60

ȸɳ БÆǪǩ ĞĿȶΣ ǥÆǝǟǟ) (Wattle) ÆĢBöǟ ŏǟÆõ ğ ɟ ÀΣǟ ʅŢĦɳ Ž ÀȽÀŢǪÀş ÛĞöÀǪŐöǟ ĞŸÀøʐǪèÀĞöǟ ʅDzÀǩ ·ӯÆŐöǟ ŎòÀÀɳ şǗ dzÀÀƨǟ ʐȽ ÀǹǗ 3ȉʐǩ ·(ǥÆǝǟÀöǟ ȻØȽ ƏΘ Ż ӯǣʐǩ 3ɳ øʐĿÛöǟ ȧÀÀ3Ǘ ŎȮÎǣ ³ş ¹ ƙĿŸÔʇǟ ƙÛȶÀöǟş ÛᴬĞĿŸÔʇǟ ǥÀɳÂöǟ ȸɳ *ĞöÀǪŐöǟ ĞŸÀøʐǪèÀĞöǟ* ȸ3 øʐĿÛöǟ ǟǨöʐõ Ŏęǖ ÀŒǗ şÆĞÀ ȸŎö ÛᴰǥÀɳÂöǟ ɃøǟǿǢ ȒĦǣ ğǟÀÀǪèǟ ÀȶõÛ(Mushin, 1979) ÀÛĿÊɳ ÛĞòÀǹ ÛĞÀƎöǟ øʐĿÛöǟ ƙǣ 3ÀǨÀɳ ğÀĿʐş ȯÆĦɳ 3ɳ ğÀĿȉÀʐ *ĞöÀǪŐöǟ ĞŸÀøʐǪèÀĞöǟ* ÆĢÊǩ ·ǨȉǟÀɳǗ ·ŏÀʇǟ øʐĿǜ

·ʔÀǹǗ ğÀǿǟʐĿǵş ǟŸȮöǟş ǙÛŐöǟ ·ţǻʐǪÊʇǟ ȸȶȒǪÀ ·ȯÀŐǪǿɟǟ ǟÀǜş ʔşÆĦöǟ øÆÔɳ БǗ %70 ŎɳÀĦöǟ ǙÛŐöǟ ŎȶƠ ·ÀĿŸĦöǟ ĞĿÊÀÀǪöǟ ȧÀÛöǟ Ž ɄøĞĞÊöǟ ŎɳÀĦöǟ (ʔşǘÀ) ÆDzʐÀ ɉǟǣÀƨǟş ÆǿǟøɟǟşĞĿȉÀʇǟş ӯÀÀȡɟǟş (%50 БǗ %20) ǟŸȮöǟ ɉǗ ɟǗ ǗǨęʐöǟ ȸɳ %90 %60) ô Àʇǟ ȸɳ Ǩ3ʐĿȉ ÀǯõɟǟŎȮÎöǟ ·(Kumar *et al.*, 1990) ǨȒÀǗ ʔşÆĦŸö ĞȶƮɳ ĞŸþ БǨ %60 ȸ3 ĞöşǘÊɳ ǙÛŐöǟ ·ɉǟʐĿǵ ĞȒ3 ĞDzʐĿǪǿ ǫʐŸǩ dzÀDZ ʐȽ (ğ ɟ ÀΣǟ ȸɳ %86 БǗ ʐȽ ɃʐəÀöǟ ŎȮÎŸö ȯÀŐǪǿɟǟ ǟÀǜ ·ǟŸȮöǟ ÀƮĿŸǩ ÛɄÊĿǝø ŎȮÎǣ ğ ɟ ÀΣǟ ȸɳ %75 БǨ 7) ʔȉÀʇǟ ȒĦǣ ÀõØÀ ɟ ·ǟŸȮöǟş ǙÛŐöǟ ǟÀĦŸö Ŏȶǫɨǟ aerosolization ǟÀĞȒǪèɟǟ ·(Kumar *et al.*, 1990) ğÀǿǟʐĿĦŸö ô ÀĦǪöǟ ȸɳ ÀǹǗ ŎȮȉ Ƀɟ şǗ ĞȒĦö ǟʐȉÀĦǩ ʅŒǗ (%13 şǗ ɉǟʐĿΣǟ ĞȒ3 ȸɳ ĞŸŐǪʇǟ ĞÀÀÎĞöǟ ʔşÆĦöǟ ĞöÀǵ Ž ȯÀŐǪǿɟǟ ǟÀǜş ʔşÆĦöǟ øÆÔɳ ȸɳ ɉÀÊǿqǟ БǗ ɉǟʐĿǵ ȸɳ ȯÀŐǪǿɟǟ ʅǪÀ ¯ ğÀȒĦöǟ ĞöÀǵ ŏÀǯǪèÀǣş ¯ ȸŎöş ÛĞȉǟş ȼȉÆǹ ÆÀ3 ĞŸÀøʐǪèÀĞöÀǣ ʔşǟÆĦöǟ ȸɳ ĞöÀǵ ¹⁰⁰ ŎĿŸƠ ŏÀǪǗ ÆDZş ·ɄȶȒȚǟ şǗ ɄÊÀǪöǟ ŎĿĞÊöǟ ȯŸǹ şǗ ǙÛŐöǟ şǗ ǟŸȮöǟ ǟʐÛÀǹ ʔȉÀʇǟ ȸɳ %69 ɉǗ ʔÀǹǗ 3ęǟʐɳş ɄÊÀǪöǟ ǟÀƮƨǟ Ž ÀÎĞöǟ 3ɳ ȓŸǪǹǟ ɃǗ ʔȉÀʇǟ ȸɳ %31 ÀȮǿǗ ŐöǢ 3ɳş ·ÀőÀDzǪÀɳ şǗ øʐĿÛöǟ şǗ ĞĿȉÀʇǟ 3ɳ ·ǨȒÀǗ (ɉÀÊǿǗ БǗ ɉÀÊǿǗ ȸɳ) ɉÀÊǿqǟ ƙǣ ȯÀŐǪǿǟ ǻʐDZʐǣ ȼĞǪÎÀ ŐöǿŎ ĞDzʐĿǪǿş Ûğ ÀǿǟʐĿΣǟ ɉǗ ÛʔşÆĦŸö ɄÊĿəÀöǟ ŎɳÀĦöǟ ÛŐȉ ɉşǻş Û*ĞöÀǪŐöǟ ĞŸÀøʐǪèÀĞöǟ* ŎȮÎǩ ǪĿǵ ·øʐĿÛöǟ ƙǣ ǟʐĞȒöǟ ĞǜÀèʐǣ ÆəÀè ŎȮÎǣ ȯÀŐǪǿɟǟ ǫÆ3ş ÛʔşÆĦöǟ ĞŸþ øʐĿÛöǟ ʐȽ ğÀĿȉÀÀöǟ øÆÔɳ ĞÀÆĦÀʇǟ dzşÀƨǟ ŏÀǯǪèÀǣ) ğŸÀøʐǪèÀĞöǟ ŏǟǻ ȸɳ ǙÛŐöǟş ǟŸȮöǟ ɄøǿÀĦǩ Àɳ ǨøǟÀǿ ·aerosol ·ʔşÆĦŸö ŏÀĦòǗ ĞŸþ ŎȮÎǩş (õǟÀĦöǟ ŏÀǪǗ ğŸÀøʐǪèÀĞöÀǣ

[illegible] 6: B [illegible] (Krank and Smith, 1983) [illegible] 6: E [illegible]

[illegible]

[illegible] .(De Alwis and Carter, 1980) [illegible] %100 [illegible] %83.3 [illegible] %66.6 [illegible] PI3 [illegible] (Leukotoxin [illegible]) [illegible] subunits [illegible] .(Confer *et al.*, 1988) [illegible] .(Wells *et al.*, 1984) [illegible] exotic [illegible]

[illegible]


Bingham, D.P., R. Moore, A.B. Richards. Comparison of DNA:DNA homology and enzymatic activity between *Pasteurella haemolytica* and related species. *Am J Vet Res* 51:1161–1166, 1990.

Bisgaard, M., E. Falsen. Reinvestigation and reclassification of a collection of 56 human isolates of *Pasteurellaceae*. *Acta Pathol Microbiol Immunol Scand [B]* 94:215–222, 1986.

Bisgaard, M., O. Heltberg, W. Fredriksen. Isolation of *Pasteurella caballi* from an infected wound on a veterinary surgeon. *Acta Pathol Microbiol Immunol Scand* 99(3):291–294, 1991.

Bjorkholm, B., T. Eilard. *Pasteurella multocida* osteomyelitis caused by cat bite. *J Infect* 6:175–177, 1983.

Blood, D.C., J.A. Henderson, O.M. Radostitis. *Veterinary Medicine*. 5th ed. Philadelphia: Lea and Febiger; 1979.

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals*. 6th ed. Ithaca: Comstock; 1973.

Burdge, D.R., D. Scheifele, D.P. Speert. Serious *Pasteurella multocida* infections from lion and tiger bites. *JAMA* 253:3296–3297, 1985.

Carter, G.R. Pasteurellosis: *Pasteurella multocida* and *Pasteurella haemolytica* [review]. *Adv Vet Sci* 11:321–379, 1967.

Carter, G.R. Pasteurella infections as sequelae to respiratory viral infections. *J Am Vet Med Assoc* 163:863–864, 1973.

Carter, G.R. Whatever happened to hemorrhagic septicemia? *J Am Vet Med Assoc* 180:1176–1177, 1982.

Colin, R., L. Jaramillo M., F. Aguilar R., *et al.* Serotipos de *Pasteurella haemolytica* en pulmones neumónicos ovinos en México. *Rev Latinoam Microbiol* 29:231–234, 1987.

Confer, A.W., R.J. Panciera, D.A. Mosier. Bovine pneumonic pasteurellosis: Immunity to *Pasteurella haemolytica* [review]. *J Am Vet Med Assoc* 193:1308–1316, 1988.

De Alwis, M.C., G.R. Carter. Preliminary field trials with a streptomycin-dependent vaccine against haemorrhagic septicaemia. *Vet Rev* 106:435–437, 1980.

DiGiacomo, R.F., B.J. Deeb, W.E. Giddens, *et al.* Atrophic rhinitis in New Zealand white rabbits infected with *Pasteurella multocida*. *Am J Vet Res* 50:1460–1465, 1989.

Dominick, M.A., R.B. Rimler. Turbinate atrophy in gnotobiotic pigs intranasally inoculated with protein toxin isolated from type D *Pasteurella multocida*. *Am J Vet Res* 47:1532–1536, 1986.

Ewing, R., V. Fainstein, D.M. Musher, M. Lidsky, J. Clarridge. Articular and skeletal infections caused by *Pasteurella multocida*. *South Med J* 73:1349–1352, 1980.

Frank, G.H, R.G. Marshall. Parainfluenza-3 virus infection of cattle. *J Am Vet Med Assoc* 163:858–859, 1973.

Frank, G.H., P.C. Smith. Prevalence of *Pasteurella haemolytica* in transported calves. *Am J Vet Res* 44:981–985, 1983.

Fraser, J., N.J. Gilmour, S. Laird, W. Donachie. Prevalence of *Pasteurella haemolytica* serotypes isolated from ovine pasteurellosis in Britain. *Vet Rec* 110:560–561, 1982.

Gillespie, J.H., J.F. Timoney. *Hagan's and Bruner's Infectious Diseases of Domestic Animals*. 7th ed. Ithaca: Comstock; 1981.

Harshfield, G.S. Fowl cholera. *In:* Biester, H.E., L.H. Schwarte, eds. *Diseases of Poultry*. 4th ed. Ames: Iowa State University Press; 1959.

Hoerlein, A.B. Shipping fever. *In:* Gibbons, W.J., ed. *Diseases of Cattle*. 2nd ed. Santa Barbara: American Veterinary Publications; 1963.

Hubbert, W.T., M.N. Rosen. *Pasteurella multocida* infection due to animal bite. *Am J Public Health* 60:1103–1108, 1970.

Hubbert, W.T., M.N. Rosen. *Pasteurella multocida* infections. II. *Pasteurella multocida* infection in man unrelated to animal bite. *Am J Public Health* 60:1109–1117, 1970.

Irwin, M.R., S. McConnell, J.D. Coleman, G.E. Wilcox. Bovine respiratory disease complex: A comparison of potential predisposing and etiologic factors in Australia and the United States. *J Am Vet Med Assoc* 175:1095–1099, 1979.

Kumar, A., H.R. Devlin, H. Vellend. *Pasteurella multocida* meningitis in an adult: Case report and review. *Rev Infect Dis* 12:440–448, 1990.

Mair, N.S. Some *Pasteurella* infections in man. *In:* Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain*. Oxford: Pergamon Press; 1968.

Mushin, R. Serotyping of *Pasteurella multocida* isolants from poultry. *Avian Dis* 23:608–615, 1979.

Mutters, R., M. Bisgaard, S. Pohl. Taxonomic relationship of selected biogroups of *Pasteurella haemolytica* as revealed by DNA:DNA hybridizations. *Acta Pathol Microbiol Immunol Scand* [B] 94:195–202, 1986.

Mutters, R., P. Ihm, S. Pohl, W. Frederiksen, W. Manuheim. Reclassification of the genus *Pasteurella* Trevisan 1887 on the basis of deoxyribonucleic acid homology with proposals for the new species *Pasteurella dagmatis*, *Pasteurella canis*, *Pasteurella stomatis*, *Pasteurella anatis*, and *Pasteurella langaa*. *Int J Syst Bacteriol* 35:309–322, 1985.

Namioka, S., M. Murata, R.V.S. Bain. Serological studies on *Pasteurella multocida*. V. Some epizootiological findings resulting from O antigenic analysis. *Cornell Vet* 54:520–534, 1964.

Pijoan, C., R.B. Morrison, H.D. Hilley. Serotyping of *Pasteurella multocida* isolated from swine lungs collected at slaughter. *J Clin Microbiol* 17:1074–1076, 1983.

Rhodes, M.B., C.W. New, P.K. Baker, *et al. Bordetella bronchiseptica* and toxigenic type D *Pasteurella multocida* as agents of severe atrophic rhinitis of swine. *Vet Microbiol* 13:179–187, 1987.

Rollof, J., P.J. Johansson, E. Holst. Severe *Pasteurella multocida* infection in pregnant women. *Scand J Infect Dis* 24:453–456, 1992.

Rosen, M.N. Pasteurellosis. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Rutter, J.M. Virulence of *Pasteurella multocida* in atrophic rhinitis of gnotobiotic pigs infected with *Bordetella bronchiseptica*. *Res Vet Sci* 34:287–295, 1983.

Schlater, L.K., D.J. Brenner, A.G. Steigerwalt, *et al. Pasteurella caballi*, a new species from equine clinical specimens. *J Clin Microbiol* 27:2169–2174, 1989.

Verma, N.D. *Pasteurella multocida* B:2 in haemorrhagic septicaemia outbreak in pigs in India. *Vet Rec* 123:63, 1988.

Wells, P.W., J.T. Robinson, N.J. Gilmour, W. Donachie, J.M. Sharp. Development of a combined clostridial and *Pasteurella haemolytica* vaccine for sheep. *Vet Rec* 114:266–269, 1984.

Wong, G.P., N. Cimolai, J.E. Dimmick, T.R. Martin. *Pasteurella multocida* chorioamnionitis from vaginal transmission. *Acta Obstet Gynecol Scand* 71:384–387, 1992.


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## PLAGUE ǅŇǰҮƑƯǁƐ

ǅŇǰҮƑƯǁƐ **A20.7** Ûă ŇǰəɓǁƐ ǅŇǰҮƑƯǁƐ **A20.2** ÜǏǂǤǭǁƐ ǅŇǰҮƑƯǁƐ **ICD-10 A20.0**

ǏǅǆǰƑǂǆÜƐ

**ICD-10 A20.0 bubonic plague; A20.2 pneumonic plague;**
**A20.7 septicaemic plague**

.Pest ɉʒʓÀÛǟ ÛPestilential ǦĚƏÀǣʒǟ ʔƭΣǟ Ûǟʒèɉǟ ǧʒʈǟ ˙ǧÀʒǟǟÀʈǟ

ɄĿş Û*Yersinia Pestis* *ǦǷʒʓÀÛǟ ǦĚèǨǟ* ʒĿ ɉʒʓÀÛŸǒ ɄøǤÊǟ ŎŋÀȞǟ ˙ǧÀǤǤÊǟ

ǦÀʒÔʒ ƂÜ (Coccobacillary ǦÀøʒÔʒ) ǦÀøʒÓŋ ǦÀʒÔʒ ÛǦõÀĦǬŋ Ǩđ ȳǟÀ8ǟ ǦĚǤŸè ǦŋʒǬÀǄ

ǨĦȓşÜ ˙ǟǨǰõ ǦĚƏÀÀÂĚÀǟş ǦĚƏÀĚƭĚÓǟ ŎŋǟʒȞǟ ȳşÀÕǩ ɍş ÛƙǤÛę ǟǣ ǞÀÀʒŸǩ ɃǼǤǩş ÛÀȽŸÓȉ Ž

(Bercovier *et al.*, 1980) *Y. pseudotuberculosis* subsp *petis* (1981 7

*antique* *Orientalis* *Media evalis* Nosography

°37 45 W V (K E)

(Butler, 1989)

(Benenson, 1990)

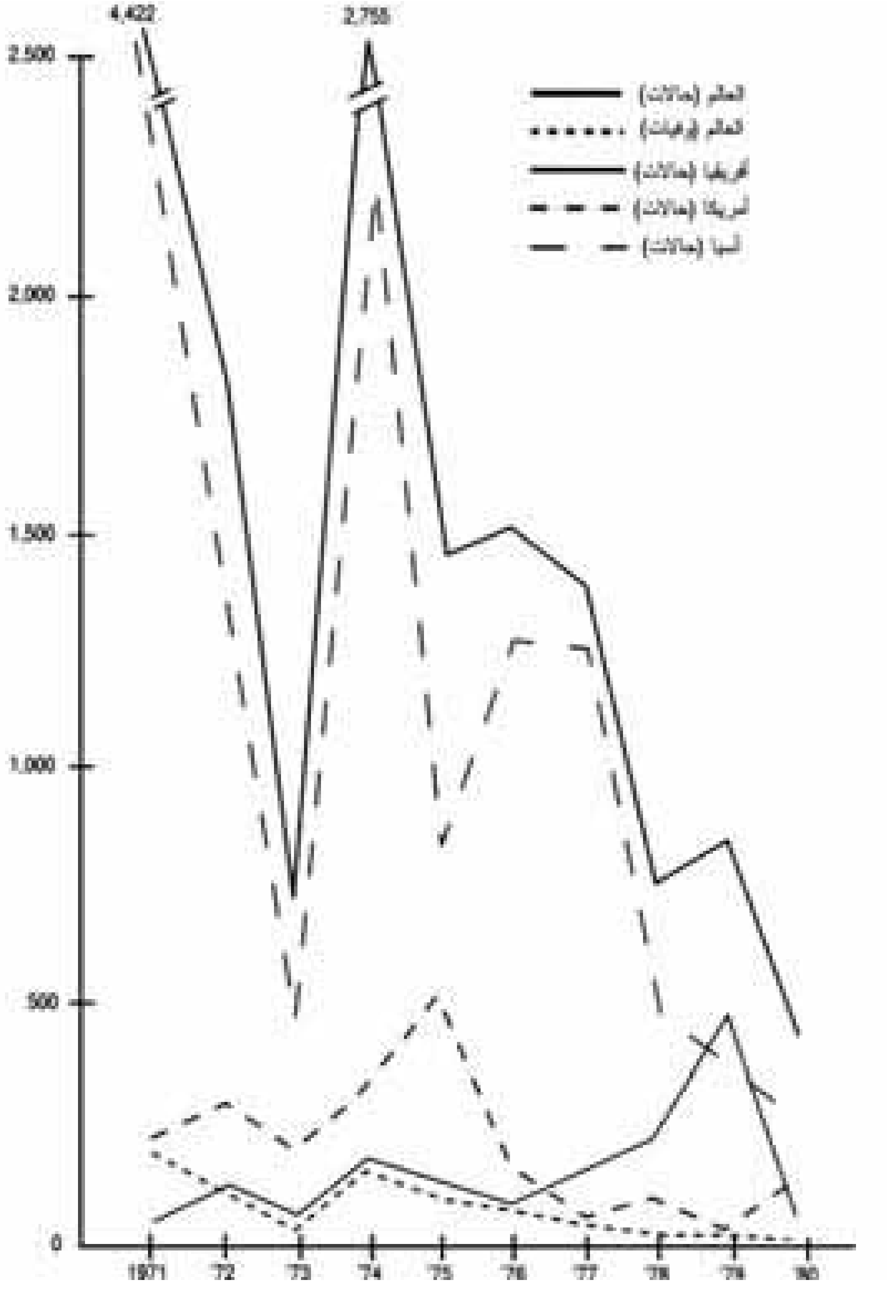
Pandemics 100 Justinian 542 25 1946

1894

1967 5274
30 46937 1979 1958
15785
16
30
(Akier, 1982) %6
1980 1971 (14
21 1.391 14752: 1991 1977
(WHO, 1993)

1719 1991
1293 60
137 1060
(WHO, 1993) 289
29 94 100 15 226
11
7
2312 (Akeiv, 1982)
316 1551 (2 1980-1971
(PAHO, 1981) 75 123 247

ÆǤÊǣ ƙǪǬȮǺȀȠǰä Ž (ǦȠǺȝ ǤǬǶȍ) ǦȠǺǶöä ǤǶǑöä Ž ǤǮȮÎȠ ŌȮÎǺ ȷɀȝǺǛöä ȯäà Ǻȡ ·ǤǬǝǺæş
ǤǬÌǺɀ ǨǪǼǵ ˙ɵşåäɀõqä Ž ·ǤǺƎöäş ǤǺDZäǼöä ô ɵäɀŌöä ƙǣ ǤǮÔöäş ɄDZÀΣä ȷɀȝǺǛöä ǦȠäǼǪèä
ǺǮǺȮÊǺ ǥƘȣȍ ǤǺÀę ɄŁş Ûşäåɵɀǥȶǭ̀ ȴǮǫşǕ ÛõäÂǬφ Ž 1976 ÈȠǺʅä ÀƮÎöä Ž ǧɟǺǵ 7 ȸȡ
Ʉɵǫöä ǧǺǶǤŌöä Ž ǧǺǬɀɀöä ȯǼǶȠ ȝǺǩɵäş ȷäæÀƨä Ž ƘǤõ ȣäɀÊǣ ǤǬÌǺǺöä ǨŌǤȅ ·ǺǺùǺę 850
·ƁǺǶöä Ž ɃÀÎǤöä ȷɀȝǺǛöä ȸȝ ǤƤǺǺöä ǧǺǬɀɀöäş ǧɟǺΣä åǼȝ ˙14 ŌȮÎöä



الجدول 2: عدد الحالات والوفيات الناجمة عن الطاعون البشري في الأمريكيتين 1971-1980

| البلد | 1971 | | 1972 | | 1973 | | 1974 | | 1975 | | 1976 | | 1977 | | 1978 | | 1979 | | 1980 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | D | C | D | C | D | C | D | C | D | C | D | C | D | C | D | C | D | C | D |
| بوليفيا | 19 | 3 | 0 | 0 | 0 | 0 | 14 | 5 | 2 | 0 | 24 | 5 | 29 | 9 | 68 | 2 | 10 | 0 | 26 | 2 |
| البرازيل | 146 | 2 | 169 | 13 | 152 | ... | 291 | ... | 496 | 5 | 97 | ... | 1 | ... | 11 | ... | 0 | 0 | 98 | 0 |
| الإكوادور | 27 | 0 | 9 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| البيرو | 22 | 5 | 118 | 15 | 30 | 2 | 8 | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 0 |
| الولايات المتحدة الأمريكية a | 2 | 0 | 1 | 0 | 2 | 0 | 8 | 1 | 20 | 4 | 16 | 3 | 18 | 2 | 12 | 2 | 13 | 2 | 18 | 5 |
| الإجمالي | 216 | 10 | 297 | 28 | 185 | 3 | 321 | 8 | 521 | 9 | 146 | 9 | 48 | 11 | 97 | 5 | 23 | 2 | 142 | 7 |

C: حالات
D: الوفيات
...: المعطيات غير متوفرة
a: الطاعون موجود في القوارض
المصدر: Bull Epidemiol PAHO 1981 3-4(4)2.

[illegible] 1984 [illegible] 1966 [illegible] 40 [illegible] 289 [illegible] .(Rust, 1985)

[illegible] 1983 [illegible] 35 [illegible] 5 [illegible] .1925 [illegible]

[illegible] 10 [illegible] 1991 [illegible] 21 [illegible] :1992 [illegible] .(WHO, 1993) [illegible] 11 [illegible] 4) [illegible] 13 [illegible] 8 [illegible] .(OPS, 1992) [illegible] 5 [illegible] 1 [illegible] 4 [illegible] 13 [illegible] 3-2) [illegible] .(CDC, 1992) [illegible] .(Benenson, 1990) 1924 [illegible] :1992 [illegible] 19 [illegible] 547 [illegible] 30000 [illegible] 9 [illegible] (1994 [illegible] (*Cavia Porcellus*) [illegible] .(1994,8 [illegible]

[illegible] 230 [illegible]

[illegible] 1982-1966 [illegible] 861 [illegible] 236 [illegible] 471 [illegible] 152 [illegible] *Ornithodorus* [illegible] 2 [illegible] *Zygodontomys lasiarus pixuna* [illegible] *Polygenis* [illegible] (Ctenocephalides felis [illegible] 10 [illegible] (*Pulex irritans* [illegible] (Almeida *et al*., 1985).

[illegible] 119 [illegible] (Kaufmann *et al*., 1981, Rollay *et al*., 1981) [illegible]

1988-1977) [illegible] (Eidson *et al.*, 1991) [illegible] (Christie *et al.*, 1980) [illegible]

[illegible] 6-2 [illegible] Bubonic [illegible] Slurred [illegible] Staggering [illegible]

[illegible] (Buboes [illegible] %60 [illegible] %25 [illegible] (Pestis minor [illegible] (Bulter, 1988) [illegible]

[illegible] %100 [illegible]

[illegible]

[illegible] 1925 [illegible] (CDC, 1982) 1980 [illegible] 3 [illegible] (CDC, 1992) [illegible] %95 [illegible]

.(Poland and Barners, 1979)

[illegible]

[illegible] *Rodentia* [illegible] Rabbits [illegible] (Lagomorphs [illegible]) Hares [illegible] *Rattus* [illegible] (Commensal [illegible] epizootics

*Cittellus beecheyi* (*Cynomys* Peromyscus *Microtus*

Feline (Rollay *et al*., 1981)

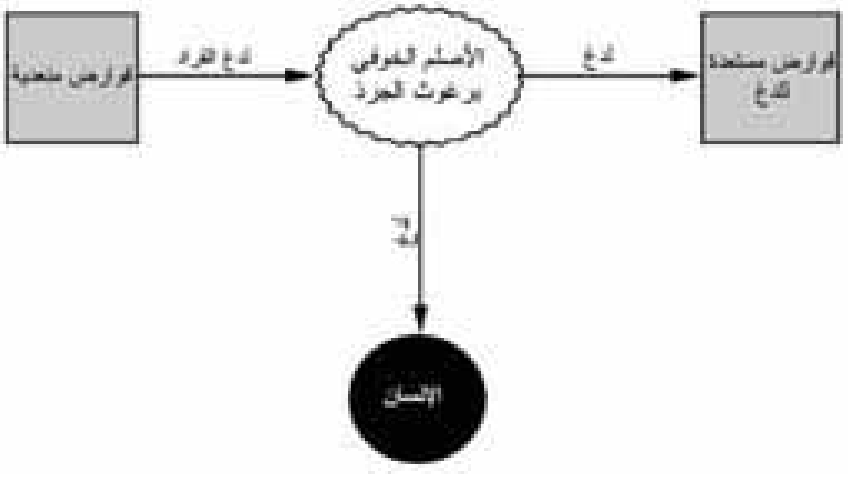
%50

(Barnes (Christie *et al* 1980)

(15

(bico et al., %85 [illegible] 1500-1000 [illegible] 1988) [illegible]

[illegible] :15 [illegible]



[illegible] Fleas [illegible] Blocking [illegible] Proventriculum [illegible] xenopoylo cheopia [illegible] 396 [illegible] 200 [illegible]

[illegible]

[illegible] (Commensal [illegible]) [illegible]

[illegible] (marsupials [illegible]) [illegible] – (*Monodelphis domestica*) [illegible] *Polygenis bohlsi jordani* [illegible] 100 [illegible] 1959 [illegible] .1971 [illegible] 40 [illegible] 1968 [illegible]

[illegible] (Zotic [illegible]) [illegible] ectoparasites [illegible]

Demic

%2.2

buboes (1979 1930

gelatinous

demic

(Williams *et al.*, 1986) F1

[illegible] native [illegible] sentinel [illegible] Sentinel [illegible] Coyote [illegible] (Wileberg *et al.*, 1979) [illegible] Restrospective [illegible] F1 [illegible] (Mc Donough *et al.*, 1988) [illegible]

[illegible] ecology [illegible]

[illegible] (*Marmota baibcina*) [illegible] 1987 [illegible] 0.91 [illegible] 1967 [illegible] 10 [illegible] 1452 [illegible] 1987 [illegible] 1967 [illegible] 2000 [illegible] 5000 [illegible] 3 [illegible] .(Lu *et al*., 1991)

[illegible] 6 [illegible]

[illegible]

[illegible]


Akiev, A.K. Epidemiology and incidence of plague in the world, 1958–79. *Bull World Health Organ* 60:165–169, 1982.

Almeida, A.M.P. de., D.P. Brasil, F.G. de Carvalho, C.R. de Almeida. Isolamento da *Yersinia pestis* nos focos pestosos do nordeste do Brasil no periodo de 1966 a 1982. *Rev Inst Med Trop Sao Paulo* 27:207–218, 1985.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bercovier, H., H.H. Mollaret, J.M. Alonso, J. Brault, G.R. Fanning, A.G. Steigerwalt, *et al.* Intra- and interspecies relatedness of *Yersinia pestis* by DNA hybridization and its relationship to *Yersinia pseudotuberculosis*. *Curr Microbiol* 4:225–229, 1980.

Butler, T. Plague. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Butler, T. The black death past and present. 1. Plague in the 1980s. *Trans R Soc Trop Med Hyg* 83:458–460, 1989.

Christie, A.B., T.H. Chen, S.S. Elberg. Plague in camels and goats: Their role in human epidemics. *J Infect Dis* 141:724–726, 1980.

Davis, D.H.S., A.F. Hallett, M. Isaacson. Plague. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Dinger, J.E. Plague. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Eidson, M., J.P. Thilsted, O.J. Rollag. Clinical, clinicopathologic, and pathologic features of plague in cats: 119 cases (1977–1988). *J Am Vet Med Assoc* 199:1191–1197, 1991.

Hudson, B.W., M.I. Goldenberg, J.D. McCluskie, H.E. Larson, C.D. McGuire, A.M. Barnes, *et al*. Serological and bacteriological investigations of an outbreak of plague in an urban tree squirrel population. *Am J Trop Med Hyg* 20:225–263, 1971.

International Committee on Systemic Bacteriology. List 7. Validation of the publication of new names and new combinations previously effectively published outside USB. *Int J Syst Bacteriol* 31:382–383, 1981.

Judicial Commission of the International Commitee on Systemic Bacteriology. Opinion 60. Rejection of the name *Yersinia pseudotuberculosis* subsp. *Yersinia pestis* (Lehmann and Neumann) van Loghem 1944 for the plague bacillus. *Int J Syst Bacteriol* 35:540, 1985.

Kartman, L., M.I. Goldenberg, W.T. Hubbert. Recent observations on the epidemiology of plague in the United States. *Am J Public Health* 56:1554–1569, 1966.

Kaufmann, A.F., J.M. Mann, T.M. Gardiner, F. Heaton J.D. Poland, A.M. Barnes, *et al*. Public health implications of plague in domestic cats. *J Am Vet Med Assoc* 179:875–878, 1981.

Lu, C.F. [Epidemiologic significance of the eradication of the gray marmot (*Marmota baibacina*) in natural foci in the mountains of Tienshan, in Hutubi District, Xinjang]. *Bull Endem Dis* 5:4–18, 1990–1991.

McDonough, K.A., T.G. Schwan, R.E. Thomas, S. Falkow. Identification of a *Yersinia pestis*-specific DNA probe with potential for use in plague surveillance. *J Clin Microbiol* 26:2515–2519, 1988.

Meyer, K.F. Pasteurella and Francisella. *In*: Dubos, R.J., J.G. Hirsch, eds. *Bacterial and Mycotic Infections of Man*. 4th ed. Philadelphia: Lippincott; 1965.

Olsen, P.F. Sylvatic (wild rodent) plague. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Organización Panamericana de la Salud (OPS). Enfermedades sujetas al Reglamento Sanitario Internacional. *Bol Epidemiol* 13:16, 1992.

Pan American Health Organization (PAHO). *Health Conditions in the Americas, 1969–1972*. Washington, D.C.: PAHO; 1974. (Scientific Publication 287).

Pan American Health Organization (PAHO). Status of plague in the Americas, 1970–1980. *Epidemiol Bull* 2:5–8, 1981.

Pan American Health Organization (PAHO). *Plague in the Americas*. Washington, D.C.: PAHO; 1965. (Scientific Publication 115).

Pavlovsky, E.N. *Natural Nidality of Transmissible Diseases*. Urbana: University of Illinois Press; 1966.

Poland, J.D., A.M. Barnes. Plague. *In*: Stoenner, H., W. Kaplan, M. Torten, eds. Vol 1, Section A: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1979.

Pollitzer, R. A review of recent literature on plague. *Bull World Health Organ* 23:313–400, 1960.

Pollitzer, R., K.F. Meyer. The ecology of plague. *In*: May, J.M., ed. *Studies in Disease Ecology*. New York: Hafner Pub. Co.; 1961.

Rollag, O.J., M.R. Skeels, L.J. Nims, J.P. Thilsted, J.M. Mann. Feline plague in New Mexico: Report of five cases. *J Am Vet Med Assoc* 179:1381–1383, 1981.

Rust, J.H. Plague research in northern Peru. PAHO/WHO report, June 1985.

Stark, H.E., B.W. Hudson, B. Pittman. *Plague Epidemiology*. Atlanta: US Centers for Disease Control and Prevention; 1966.

Tirador, D.F., B.E. Miller, J.W. Stacy, A.R. Martin, L. Kartman, R.N. Collins, *et al*. Plague epidemic in New Mexico, 1965. An emergency program to control plague. *Public Health Rep* 82:1094–1099, 1967.

Ubico, S.R., G.O. Maupin, K.A. Fagerstone, R.G. McLean. A plague epizootic in the white-tailed prairie dogs (*Cynomys leucurus*) of Meeteetse, Wyoming. *J Wildl Dis* 24:399–406, 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Human plague—United States, 1981. *MMWR Morb Mortal Wkly Rep* 31:74–76, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Pneumonic plague—Arizona, 1992. *MMWR Morb Mortal Wkly Rep* 41:737–739, 1992.

Willeberg, P.W., R. Ruppanner, D.E. Behymer, H.H. Higa, C.E. Franti, R.A. Thomson, *et al*. Epidemiologic survey of sylvatic plague by serotesting coyote sentinels with enzyme immunoassay. *Am J Epidemiol* 110:328–334, 1979.

Williams, J.E., L. Arntzen, G.L. Tyndal, M. Isaacson. Application of enzyme immunoassays for the confirmation of clinically suspect plague in Namibia, 1982. *Bull World Health Organ* 64:745–752, 1986.

World Health Organization (WHO). *WHO Expert Committee on Plague. Fourth Report*. Geneva: WHO; 1970. (Technical Report Series 447).

World Health Organization (WHO). Human plague in 1991. *Wkly Epidemiol Rec* 68(4):21–23, 1993.

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## ƕĜƤƑ ǁƐ ƕĭƚƨǁƐ ƖƑĭƨƥĭǁƐ ƀƐǫ
## PSEUDOTUBERCULOUS YERSINIOSIS

### ƀƑƴĎŽŬƐ ƚƥƑǫ ƖƑĭƨƥĭǁƐ ƀƐǫ ICD-10 A28.2
### ICD10 A28-2 extraintestinal yersiniosis

ȴĔǭăÀDZ ȗĿș û*Pseudotuberculosis Yarsinia* ČăÁÒă ČĔÊă ČĂèKă ⁚ğÀĔĜĜÊŏă

[illegible] °37 [illegible] °25 [illegible] coccobacillary [illegible] DNA [illegible] (6-1) [illegible] (O) [illegible] .(Svhiemonn 1989) [illegible] 5-4-2-1 [illegible] .(O: IC) 0: 1 [illegible] (Tsuboku *et al* 1993) 11 [illegible] .(Galyov *et al.*, 1993) [illegible]

[illegible]

[illegible] 3 [illegible] 117 .(Schiemonn, 1989) [illegible]

[illegible] .(Tertti *et al.*, 1959) [illegible] 19 [illegible] 3 [illegible] .(Stovell, 1980) [illegible] 1984-1982 [illegible] 16 [illegible] 5a [illegible] 2C [illegible] .(Inone *et al.*, 1988) [illegible] 4b

[illegible] 1991 [illegible] 134 [illegible] 732 [illegible] 33 [illegible] (%81.8) 27 [illegible] 5a [illegible] .Autoagglutination [illegible] 37° [illegible] .(Toyokowa *et al*, 1993) [illegible] 3.2.1 [illegible] 6 [illegible] 5 [illegible] 4 [illegible] .(Qian *et al*., 1981)

[illegible] 1 [illegible]

[illegible] %66.7 [illegible] %73.8 [illegible] 478 [illegible] %86 [illegible] %63.4 6 [illegible] .(Tertti *et al* 1984) [illegible] 19 [illegible] 1 [illegible] 4 [illegible] 6 [illegible] 12 [illegible] 1 [illegible] 3 [illegible]

[illegible] .(Lemaitre, 1980) [illegible]

[illegible] .(Lemaitre, 1991)

[illegible] .%75-%5 [illegible] [1] [illegible] .(Noseda *et al.*, 1987)

[illegible]

[illegible] [3] (Slee and Skilbeck, 1992) [illegible] [14] [illegible] .(Slee and Button, 1990) [illegible]

[illegible] O: 3 [illegible] O: 1 [illegible] (Slee and Button, 1990) Conditioning [illegible] .(Witte *et al.*, 1985) [illegible]

[illegible] 3 [illegible] 35 [illegible] 26 [illegible] 20 [illegible]

[illegible] (Slee *et al.*, 1988) [illegible] .(Collinon *et al.*, 1988) [illegible] 0: 3 [illegible] %1.7 [illegible] %5.8 [illegible] %0.6 [illegible] 70 [illegible] .0: 3 (Noseda *et al.*, 1990) [illegible]

[illegible] .(Willner-Pendleton and Coper, 1983) [illegible] %15-%2 [illegible] 12-9 [illegible] Cannibalism [illegible]

[illegible]

[illegible] (*Oryctolagus cuniculus*) [illegible] (*Lepus eurppaeus*) [illegible] (*columba palumbus*) [illegible] (*rattus norvegicus* [illegible])

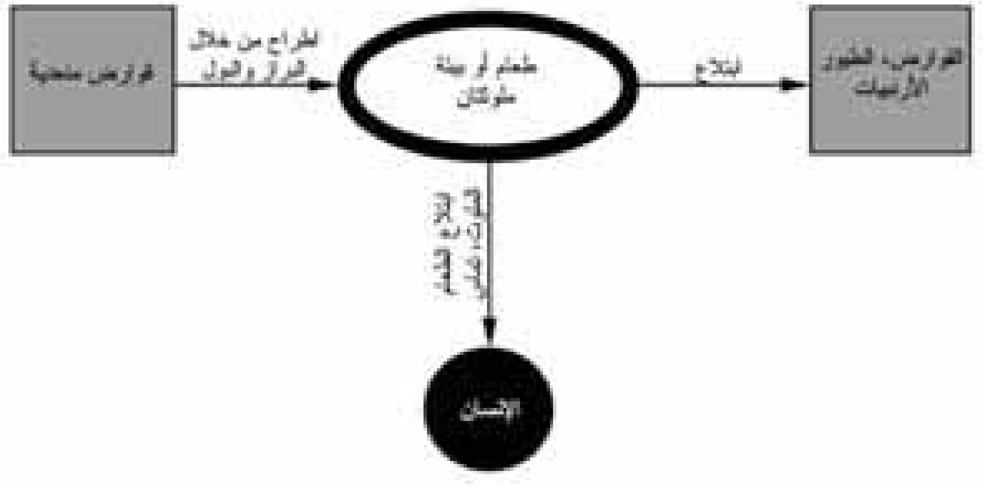
[illegible] (*Myocastor Coypus*) [illegible] nutria [illegible] O: 1 [illegible] (Monteavaro *et al.*, 1990) (Cipolla *et al.*, 1987) [illegible] Patagonian mara [illegible] (*Dolichotis patagonum*) 1a [illegible] %0.79-%0.66 [illegible] 2a [illegible] 1b [illegible] (Porsons, 1991).

[illegible] (*Saimri* [illegible]) [illegible] (*Cercopithecus aethiops* [illegible]) [illegible] *sciureus*) [illegible] (Plesker and Claros, 1992) [illegible] (O: 2) [illegible] New World [illegible] (Brack and Gatesman 1991; Brack *et al.*, 1992) [illegible] (O: 1) [illegible]

[illegible] (16 [illegible]) [illegible]

ʔŸʒ ĶĂÀDZĬ ĞĿDZζŏζĂÀǪȮĞŏ Ğèăǿá ğáÀÀǪèă (ȷÀăĿăă) ȷÀŧĿì ĞĂɟζŏ ĞĿŸĞƨă ĘùÀĂţă Ž ·ǿζĿÛăă (*Urotrichus* mole ÆŸʅăş Û*eothenomys*ş *Apodemus* ؛ǿζÕĿăă ãÀÀDZĬ ȸŋ ĨĂÀă Ĩǿüζ 1.530 ÀT ɃǿăǿØăă ȸŋ 10ş Ĩǿăζǵ 72 ǿζʒĬ ȸŋ ĞăăÀÒăă ĞĿŸÊăă ĞĿÀèKăă ğáÀÀǪèă ·*talpoides*) ŌÔζ ŏÀĂǪĬ ĨÀĂăζǩ Àǯõĭ ŌȮÎăş ÛÙŎζ ȷăÀÀÀăă Ž ɄǿĞĞÊăă ŌŋÀĦăă ζÎǪõă ·ĞĿʒζζ ğăÆĿŋăŸă ăăÀă ĞĂɟζăă ÈÀφ Ž ʔÀŉĬ Ğèăǿá Ķʒǿă ·(Fukushimo *et al*., 1990) ȷăÆŏζăă Žş ǯşăÀǪăă ȸŋ ĞăăÀÒăă ĞĿŸÊăă ĞĿÀèKăă Ƀǿăǿă ȸŋ ĞĂǿă 37 ğáÀÀǪèă ·ĨĂÀă ĨÀəÀü 259ş ĨĂÀă ĨĿĂÆǪ 610 ÈÀφ ȸŋ ğáÀÀǪÊţă ĞĿŸÔţă ȓÀŷǰă ĶφÀõ·(%0.8) ăşqă ǿζĿù ȸŋ 2 ȸŋş (%5.6) ɄĂÆǪ 34 ƙă ĞĿəÀăş ĞçŸʒ ǯÀǪÀǪèă Ź ăØȮŁş ÛȷÀăĿăă Ž ʅĿŸçqă Ōŏæ Ž ÀÎĞăă ȸŋ ğáÀÀǪÊţă ŌŸǩ Ž (%14) ʔşÆĦŸŏ ʔŸʒǰă ĞĞÊÀăă ʔŸʒ ŌÔǵ ·ĞĂƎăă ğÀφăζĿΣă Ž ʔşÆĦăăş ĞĂÀÎĞăă ʔşÆĦăă 8şÀĦţă Û(*Nyctereutes Procyonoides*) Ʉǿφζõă Àăă ÆŸÒăăş ÛOmnivorous ğǿÀç ÆŸõ .(Fukushimo Gomyoda *et al.,* 1991) ÀĂǿζõş ƙÔăăş ȷÀăĿăă Ž

·ŌŧǪǂă ŏÀŌǪφɟă ăÀù - (ĞăăÀÒăă ĞĿŸÊăă ĞĿÀèKăă) ĞăăÀÒăă ĞĿŸÊăă ğÀĿÀèKăă ŏăá ؛1.6 ŌȮÎăă



ȸŋ %4.3ş %5.8 ȸŋ ŌŋÀĦăă áăÀÀǪèă ƂĬ ăÆÀŏζŁş ÀĿφÀţĬ Ž ğăÀŎă ğÀèăǿÆăă ğǿÀìĬ ŌŋÀǵ ȷăζĿΣă ăØŁ ȷĬ ƂĬ ƘÎĂ ÀưÛƂăζǪă ʔŸʒ ĨĂÀĂÀè ĜĿĦò ÀĂÂǿÀŉ 163ş 480 ğăăζŏ ÀĂăÀĂʅă ĞĂÊŏĬ ȸŋ %2 Ƀζʒ ؛ȷÀăĿăă Ž ·(Weber and Knapp, 1981) ʔşÆĦŸŏ ĜĿĦò ʅΣ ğÀĂĿʒ ĶÔĦζ ÀŋÆĂʒ ·ĞăăÀÒăă ĞĿŸÊăă ĞĿÀèKăă ÿşÀĂţă ÀĂÂǿÀʅă ʅΣ ȸŋ %0.8ş ɄŸÔţă ÙŧÀăă Ęζăζǩ) ğáÀÀǪÊţă ĞĦăǿǰă ɃǿăǿØăă ȸŋ ƙǪĂǿØŏ ȷÀõ ÛüÂŎă ʒĿĞŸŏ ğÆĦţă ÀĂÂǿÀʅă

(Shiazawa *et al.*, 1985 [illegible] (4b [illegible] 4b [illegible] .1989) 14 [illegible] 12.6 [illegible] %0.58 [illegible] .Fukushima [illegible] .(Weber-Knapp; 1981) [illegible] 50 [illegible] %84 [illegible] 509 [illegible] (%26.3) 134 [illegible] 1 [illegible] 2 [illegible] (%93.2) [illegible] 3 [illegible] .(Hodges and Corman, 1985) [illegible]

[illegible] 2 [illegible] .(Aldova *et al.*, 1979) [illegible] 1 [illegible] 1989-1983 [illegible] .(Dziubak *et al.*, 1991) *Muridae* [illegible] eporniti [illegible]

[illegible]

[illegible]

(*Columba Polumbus*)

(Wallner *et al*; 1983)

(Tertti *et al.*, 1984) 19

vehicle

(Carniel and molleret, 1990)

(Fukushima, 1985)

[illegible]

[illegible]

[illegible]

[illegible]


Aldova, E., A. Brezinova, J. Sobotkova. A finding of *Yersinia pseudotuberculosis* in well water. *Zbl Bakt Hyg [B]* 169:265–270, 1979.

Bercovier, H., H.H. Mollaret, J.M. Alonso, J. Brault, G.R. Fanning, A.G. Steigerwalt, *et al.* Intra and interspecies relatedness of *Yersinia pestis* by DNA hybridization and its relationship to *Yersinia pseudotuberculosis*. *Curr Microbiol* 4:225–229, 1980.

Brack, M., T.J. Gatesman [*Yersinia pseudotuberculosis* in New World monkeys]. *Berl Munch Tierarztl Wochenschr* 104:4–7, 1991.

Brack, M., F. Hosefelder. *In vitro* characteristics of *Yersinia pseudotuberculosis* of nonhuman primate origin. *Zentralbl Bakteriol* 277:280–287, 1992.

Callinan, R.B., R.W. Cook, J.G. Boulton, *et al.* Enterocolitis in cattle associated with *Yersinia pseudotuberculosis* infection. *Aust Vet J* 65:8–11, 1988.

Carniel, E., H.H. Mollaret. Yersiniosis [review]. *Comp Immunol Microbiol Infect Dis* 13:51–58, 1990.

Cipolla, A.L., P.E. Martino, J.A. Villar, M. Catena. Rodenciosis en nutrias (*Myocastor coypus*) de criadero: primeros hallazgos en Argentina. *Rev Argent Prod Animal* 7:481–486, 1987.

Dziubak, V.F., A.S. Maramovich, I.I. Lysanov, R.N. Liberova. [The epidemiological patterns of pseudotuberculosis in Khabarovsk Kray]. *Zh Mikrobiol Epidemiol Immunobiol*, October (10):25–28, 1991.

Fukushima, H. Direct isolation of *Yersinia enterocolitica* and *Yersinia pseudotuberculosis* from meat. *Appl Environ Microbiol* 50:710–712, 1985.

Fukushima, H., M. Gomyoda. Intestinal carriage of *Yersinia pseudotuberculosis* by wild birds and mammals in Japan. *Appl Environ Microbiol* 57:1152–1155, 1991.

Fukushima, H., M. Gomyoda, S. Kaneko. Mice and moles inhabiting mountainous areas of Shimane Peninsula as sources of infection with *Yersinia pseudotuberculosis*. *J Clin Microbiol* 28:2448–2455, 1990.

Galyov, E.E., S. Hakansson, A. Forsberg, H. Wolf-Watz. A secreted protein kinase of *Yersinia pseudotuberculosis* is an indispensable virulence determinant. *Nature* 361(6414): 730–732, 1993.

Hodges, R.T., M.G. Carman. Recovery of *Yersinia pseudotuberculosis* from faeces of healthy cattle. *N Z Vet J* 33:175–176, 1985.

Inoue, M., H. Nakashima, T. Ishida, M. Tsubokura. Three outbreaks of *Yersinia pseudotuberculosis* infection. *Zbl Bakt Hyg [B]* 186:504–511, 1988.

Joubert, L. La pseudo-tuberculose, zoonose d'avenir. *Rev Med Vet Lyon* 119:311–322, 1968.

Lemaitre, B.C., D.A. Mazigh, M.R. Scavizzi. Failure of beta-lactam antibiotics and marked efficacy of fluoroquinolones in treatment of murine *Yersinia pseudotuberculosis* infection. *Antimicrob Agents Chemother* 35:1785–1790, 1991.

Mair, N.S. Yersiniosis in wildlife and its public health implications. *J Wildl Dis* 9:64–71, 1973.

Mair, N.S. Yersiniosis (Infections due to *Yersiniosis pseudotuberculosis* and *Yersiniosis enterocolitica*). *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Monteavaro, C., A. Schettino, P. Soto, *et al.* Aislamiento de *Yersinia pseudotuberculosis* en nutrias de criadero. *Rev Med Vet* 71:220–224, 1990.

Noseda, R.P., J.C. Bardón, A.H. Martínez, J.M. Cordeviola. *Yersinia pseudotuberculosis*: epizootia en una colonia de *Cavia porcellus*. *Vet Argent* 4:134–136, 1987.

Noseda, R.P., A.H. Martínez, J.C. Bardón, *et al. Yersinia pseudotuberculosis* en bovinos de la Provincia de Buenos Aires. *Vet Argent* 7:385–388, 1990.

Parsons, R. Pseudotuberculosis at the zoological society of London (1981 to 1987). *Vet Rec* 128:130–132, 1991.

Plesker, R., M. Claros. A spontaneous *Yersinia pseudotuberculosis* infection in a monkey colony. *Zbl Vet Med [B]* 39:201–208, 1992.

Quan, T.J., A.M. Barnes, J.D. Poland. Yersinioses. *In*: A. Balows, W.J. Hausler, Jr., eds. *Diagnostic Procedures for Bacterial, Mycotic and Parasitic Infections*. Washington, D.C.: American Public Health Association; 1981.

Schiemann, D.A. *Yersinia enterocolitica* and *Yersinia pseudotuberculosis*. *In*: Doyle, M.P. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Shiozawa, K., M. Hayashi, M. Akiyama, *et al.* Virulence of *Yersinia pseudotuberculosis* isolated from pork and from the throats of swine. *Appl Environ Microbiol* 54:818–821, 1988.

Slee, K.J., P. Brightling, R.J. Seiler. Enteritis in cattle due to *Yersinia pseudotuberculosis* infection. *Aust Vet J* 65:271–275, 1988.

Slee, K.J., C. Button. Enteritis in sheep, goats and pigs due to *Yersinia pseudotuberculosis* infection. *Aust Vet J* 67:320–322, 1990.

Slee, K.J., N.W. Skilbeck. Epidemiology of *Yersinia pseudotuberculosis* and *Y. enterocolitica* infection in sheep in Australia. *J Clin Microbiol* 30:712–715, 1992.

Stovell, P.L. Pseudotubercular yersiniosis. *In*: Stoenner, H., W. Kaplan, M. Torten, eds. Vol 2, Section A: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1980.

Tertti, R., K. Granfors, O.P. Lehtonen, J. Mertsola, A.L. Makela, I. Valimaki, *et al.* An outbreak of *Yersinia pseudotuberculosis* infection. *J Infect Dis* 149:245–250, 1984.

Toyokawa, Y., Y. Ohtomo, T. Akiyama, *et al.* [Large scale outbreak of *Yersinia pseudotuberculosis* serotype 5a infection at Noheji-machi in Aomori Prefecture]. *Kansenshogaku Zasshi* 67:36–44, 1993.

Tsubokura, M., S. Aleksic, H. Fukushima, *et al.* Characterization of *Yersinia pseudotuberculosis* serogroups O9, O10 and O11; subdivision of O1 serogroup into O1a, O1b, and O1c subgroups. *Zentralbl Bakteriol* 278:500–509, 1993.

Wallner-Pendleton, E., G. Cooper. Several outbreaks of *Yersinia pseudotuberculosis* in California turkey flocks. *Avian Dis* 27:524–526, 1983.

Weber, A., W. Knapp. [Seasonal isolation of *Yersinia enterocolitica* and *Yersinia pseudotuberculosis* from tonsils of healthy slaughter pigs]. *Zbl Bakt Hyg A* 250:78–83, 1981a.

Weber, A., W. Knapp. [Demonstration of *Yersinia enterocolitica* and *Yersinia pseudotuberculosis* in fecal samples of healthy slaughter swine depending on the season]. *Zbl Vet Med B* 28:407–413, 1981b.

Wetzler, T.F. Pseudotuberculosis. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Witte, S.T., D.P. Sponenberg, T.C. Collins. Abortion and early neonatal death of kids attributed to intrauterine *Yersinia pseudotuberculosis* infection. *J Am Vet Med Assoc* 187: 834, 1985.

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# RAT BITE FEVER [illegible]

**[illegible] A25.1 [illegible] A.25.0 ICD-10**
**ICD-10 A25.0 Spirillosis, A25.1 streptobacillosis**

[illegible] *streptobacillus moniliformis* [illegible] *.Spirillum minus (minor)* [illegible]

## [illegible] .1
**1. Infection due to *Streptobacillus moniliformis***

[illegible] 0.7-0.1 [illegible] 5-1 [illegible] 150-10 [illegible] %20 [illegible] .(Savage, 1984) [illegible]

.1926 ... 304 ... %43 ...

.(McEvoy *et al.,* 1987)

... 4 – 2 ...

... %10 ...

.(Washburn, 1990) ...

.(McEvoy *et al.,* 1987) ...

(1987)

(Benenson, 1990)

.(Wilkins *et al.,* 1988)

## 2. Infection due to *Spirillum minus*

.spirillary ... Sodoko ...

.(Krieg, 1984) ... 0.2 ... 5-3 ...

... %25 ...

... 4 – 1 ...

ferret

Anderson, L.C., S.L. Leary, P.J. Manning. Rat-bite fever in animal research laboratory personnel. *Lab Anim Sci* 33:292–294, 1983.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bisseru, B. *Diseases of Man Acquired from His Pets*. London: Heinemann Medical; 1967.

Boyer, C.I., D.W. Bruner, J.A. Brown. A *Streptobacillus*, the cause of tendo-sheat infection in turkeys. *Avian Dis* 2:418–427, 1958.

Krieg, N.R. Aerobic/microaerophilic, motil, helical/vibroid gram-negative bacteria. *In*: Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.
McEvoy, M.B., N.D. Noah, R. Pilsworth. Outbreak of fever caused by *Streptobacillus moniliformis*. *Lancet* 2:1361–1363, 1987.
Ruys, A.C. Rat bite fevers. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.
Savage, N. Genus *Streptobacillus*. *In*: Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.
Washburn, R.G. *Streptobacillus moniliformis* (Rat-bite fever). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.
Wilkins, E.G.L., J.G.B. Millar, P.M. Cockroft, O.A. Okubadejo. Rat-bite fever in a gerbil breeder. *J Infect* 16:177–180, 1988.
Yamamoto, R., G.T. Clark. *Streptobacillus moniliformis* infection in turkeys. *Vet Rec* 79:95–100, 1966.

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## RHODOCOCCOSIS [illegible]

**[illegible] ICD-10 J15.8**
**ICD-10 J15.8 other bacterial pneumonia**

[illegible] *Rhodococcus* (*coryebacterum* [illegible]) *equi* [illegible] **Actinomycetales** [illegible] 14 [illegible] 4 [illegible] %60 [illegible] 3 [illegible] .2
.(Timoney *et al.,* 1988)

[illegible] 17-15 [illegible] .(Prescott, 1991) [illegible] (Takai *et al.*, 1991a) [illegible]

[illegible] 1923 [illegible] .(Barton and Hughes, 1980)

[illegible] 1977 [illegible] .(Van Etta *et al.*, 1983) [illegible] 13 [illegible] 1983 1990 – [illegible] 20 [illegible] .(Prescott, 1991) 1983 [illegible]

[illegible] .(Barton and Hughes, 1980)

[illegible] (Prescott, [illegible] .1991)

[illegible]

[illegible] %88 AIDS [illegible] %20 [illegible] %54.5) [illegible] .(Prescott, 1991; Harvey and Sunstrum, 1991) [illegible] %75 (Harvey and [illegible] %61 [illegible] .Sunstrum, 1991)

[illegible] 4 – 2 [illegible] 6 – 2 [illegible] 6 [illegible] .(Yager, 1987) [illegible]

[illegible] %50 [illegible]

.(Yager, 1987) [illegible] 89 [illegible] %26) [illegible]

[illegible] 10-4 [illegible]

[illegible] .(Barton and Hughes, 1980)

[illegible] (Fraser *et* [illegible] *al.,* 1991) [illegible] .(Takai *et al.,* 1991b) [illegible] (%82) [illegible] (%64) [illegible] (%83) [illegible] (%97) [illegible] (%89) [illegible] .(%76) mares [illegible]

[illegible] .(Carman and Hodges, 1987) (%94) [illegible]
.(Mutimer *et al.*, 1979) [illegible] 521 [illegible] 2 [illegible]
[illegible] 32 [illegible] 2 [illegible]
. (Prescott, 1991)

[illegible]
(Takai *et al.*, 1986; Hietala *et al.*, 1985; [illegible]
.Yager, 1987)

[illegible] HIV [illegible]

[illegible]
.(Presott, 1991) [illegible]

.(Faser *et al.*, 1991)


Barton, M.D., K.L. Hughes. *Corynebacterium equi*: A review. *Vet Bull* 50:65–80, 1980.

Carman, M.G., R.T. Hodges. Distribution of *Rhodococcus equi* in animals, birds and from the environment. *N Z Vet J* 35:114–115, 1987.

Fraser, C.M., J.A. Bergeron, A. Mays, S.E. Aiello, eds. *The Merck Veterinary Manual*. 7th ed. Rahway: Merck; 1991.

Harvey, R.L., J.C. Sunstrum. *Rhodococcus equi* infection in patients with and without human immunodeficiency virus infection. *Rev Infect Dis* 13:139–145, 1991.

Hietala, S.K., A.A. Ardans, A. Sansome. Detection of *Corynebacterium equi*-specific antibody in horses by enzyme-linked immunosorbent assay. *Am J Vet Res* 46:13–15, 1985.

Mutimer, M.D., J.B. Woolcock, B.R. Sturgess. *Corynebacterium equi* in human faeces. *Med J Aust* 2:422, 1979. Cited in: Prescott, J.F. *Rhodococcus equi*: An animal and human pathogen. *Clin Microbiol Rev* 4:20–34, 1991.

Prescott, J.F. *Rhodococcus equi*: An animal and human pathogen. *Clin Microbiol Rev* 4:20–34, 1991.

Takai, S., K. Koike, S. Ohbushi, *et al.* Identification of 15- to 17-kilodalton antigens associated with virulent *Rhodococcus equi*. *J Clin Microbiol* 29:439–443, 1991a.

Takai, S., S. Ohbushi, K. Koike, *et al.* Prevalence of virulent *Rhodococcus equi* in isolates from soil and feces of horses from horse-breeding farms with and without endemic infections. *J Clin Microbiol* 29:2887–2889, 1991b.

Takai, S., H. Ohkura, Y. Watanabe, S. Tsubaki. Quantitative aspects of fecal *Rhodococcus* (*Corynebacterium*) *equi* in foals. *J Clin Microbiol* 23:794–796, 1986.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

Van Etta, L.L., G.A. Filice, R.M. Ferguson, D.N. Gerding. *Corynebacterium equi*: A review of 12 cases of human infection. *Rev Infect Dis* 5:1012–1018, 1983.

Yager, J.A. The pathogenesis of *Rhodococcus equi* pneumonia in foals. *Vet Microbiol* 14:225–232, 1987.

# SALMONELLOSIS [illegible]

**AO201** [illegible] **ICD -10 AO2.0** [illegible] **AO 208** [illegible]

**ICD-10 A02.0 salmonella enteritis; A02.1 salmonella septicaemia;**
**A02.8 other specified salmonella infections**

[illegible]

[illegible] .Enteropacteriaceae [illegible] .°70 [illegible] .8 – 4 [illegible] °45.8 [illegible] .[illegible] 15 [illegible] °71.1 [illegible] %20 [illegible] .(1988 [illegible]) [illegible]

[illegible] 14 – 4 [illegible] *S. typhimurium* [illegible] .(McLaren and Wary, 1991) [illegible] .(el-Gazzar and Marth, 1992) [illegible] °7 [illegible] 10 [illegible] (1987) [illegible] Edwards [illegible]

.(Farmer *et al.*, 1984) [illegible] Ewing [illegible] *Typimurium* [illegible] *enterica* [illegible] I [illegible]

[illegible] Vi [illegible] H [illegible] O [illegible] 2200 [illegible]

[illegible] *pullorum* [illegible] *gallinarum* [illegible] pullarum [illegible] .(D'Aoust, 1989) [illegible]

[illegible] phage [illegible] 137 [illegible] 2010 [illegible] biotypes [illegible] %52 [illegible] (Barker *et al.*, 1980) [illegible] lysotype [illegible]

[illegible]

[illegible] *paratyphi* A [illegible] *paratyphic* C [illegible] .(Murray, 1986) [illegible]

[illegible] *enteritidis* [illegible] *weltevreden* [illegible]

[illegible] 30000 [illegible] 1980 [illegible] (Hargrett-Bean *et al.*, 1988) [illegible] 42028 [illegible] 1986 [illegible] .(CDC, 1982) [illegible] %21) 1993 [illegible] 1976 [illegible] 12784 [illegible] 375 [illegible] :1991-1985

[illegible] 49 [illegible] 1508 [illegible] .(CDC, 1992a) [illegible]

[illegible] 30 [illegible] 1900 [illegible] 1990 [illegible] %23 [illegible] .(CDC, 1990) [illegible]

[illegible] 20000 [illegible] :1985 [illegible]

[illegible] 1985-1981 [illegible] (3 [illegible] .(1988 [illegible])

1985-1981 [illegible] :3 [illegible]

| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|
| 500 | [illegible] | [illegible] | [illegible] | 1981 |
| 700 | Indiana [illegible] | [illegible] | [illegible] | 1981 |
| 654 | [illegible] | [illegible] | [illegible] | 1981 |
| 245 | Napoli [illegible] | [illegible] | [illegible] | 1982 |
| 126 | Aranienburg [illegible] | [illegible] | [illegible] | 1982 |
| 274 | [illegible] | [illegible] | [illegible] | 1984 |
| 450 | [illegible] | [illegible] | [illegible] | 1984 |
| 2,000 | [illegible] | [illegible] | [illegible] | 1984 |
| 766 | [illegible] | [illegible] | [illegible] | 1984 |
| 150 | [illegible] | [illegible] | [illegible] | 1985 |
| 60 | Ealing [illegible] | [illegible] | [illegible] | 1985 |
| 20,000 | [illegible] | [illegible] | [illegible] | 1985 |

[illegible] 5300000 [illegible] 740000 [illegible] 100000 [illegible] 10 [illegible] (Bryan, 1981) 3/2 [illegible] 3/1 [illegible] 100000 [illegible] 43 [illegible] 100000 [illegible] 44 [illegible] .(Silliker, 1982) [illegible] 1980 [illegible] 48607 [illegible] 1979 [illegible] 40717 [illegible] 1978 [illegible] 33215 [illegible] 32.2 1983-1980 [illegible] .(Poehn, 1982) (D'Aoust, [illegible] 100,000 [illegible] 27 :1985 [illegible] 100,000 .1989

[illegible] 23 [illegible] 7 [illegible] 1984 [illegible] 1974 [illegible] .(Tauxe *et al.*, 1987) [illegible]

[illegible] 1977 [illegible] 640 [illegible] 545 [illegible] (%93) 598 [illegible] *thompson* [illegible] 3429 [illegible] 1974 – 1969 [illegible] .(Gunn and Bullon) [illegible] 932 [illegible] 1972 [illegible] 1969 [illegible] 3429 [illegible] 1972 [illegible] 246 [illegible] %14 [illegible] oranienburg [illegible] %27 [illegible] %73 [illegible]

.(Binsztein *et al.,* 1982)

1986

1986 ... 1986

2500 ... 39 ... :1988

.(Eiguer *et al.,* 1990; Rodrigueet *et al.*, 1990)

%1

183 ... 16274 ... :1980 ... .%3

(Pietzsch,

222160 ... %1.25 ... :1985 ... .1982)

81851 ... 4.81

2515 ... 141827 ... 459

.(CDC, 1982) 1980

%7 ... %5 ... %1

1980 ... 3626

.1981 ... 2992

1983 ... 1967

908 ... %11.2 ... %9.8 ... %12.8 ... %8.4

124774 ... %0.04

672 ... %7.7 ... 29613 ... %0.1

.(D'Aoust, 1989) ... 301 ... %13.6

72 – 6

4-2

6546

1983 1969

%34 194 %3

%5 %5 %23 %32

.(Wilkins and Roberts, 1988) %3

*choleraesuis*

·ǺǜǟǺǺƪǟ ǟǨǒǭǭ ǦŸǮǫǭɫŸÊǣ ʔşǽȞǒǟ ȝƞ ƙǣǺÔţǟ ʔȓǺţǟ ȸƞ %50 ȸƞ Ǻǯǭǖ Ž ȳǽǒǟ ŻǺθ ǦǼǟǽǼÊǒǟş Dublin ǦǺŸǟǽǒǟ ţǟǭǫɊǒ ȸÒǭş ·%20 БǕ ǧǺǭǭǒǟ ȯǽȞƞ ŌÔǺ ȷǕ ȸÒǭş ǒǟǻ ʔǺÎǺ ·ǦǼŸǼÖǫ ǧǺƊǼǟǺǹ ǺǦǒǺȡş ǕǦǺǭȞƞ ʔƥ) Ǻǭƞǻ ǺǫǺǪǕ ǼǦÊǨ ȷǕ ǺȒǺǕ Sendai ǭȴ ¢ǣ ʔǒǭţǟ ǼǫǦǭǒǟ ǯŸȞǒǟş ÛǧǻǺȝ ǧǺǺȝǺȒƞ ȷşǻ øǽÔţǟ ɄøǫǟǭǼΣǟ ǧŸǮǫǭɫŸÊǒǟ ǦǒǺǹ ÛʔȓǺţǟ ȸƞ ǦŸǼŸę ǦǦÊǫ ɄøǫǺȞǨ ǽę ·ȯøǺŤÒǒǟ ȒǺǭȞş (ŌǒǟǭÊǒǟ ȒǺǭȞǨ) ǒǺŤƞqǟ ȸÒǭş ·ȳǽǒǟ ŻǺθ ȸƞ Ǖ(Ƅǟ ··ÛɃǺÒÊǒǟ ÛȳǟøşɉǟǟÛǟǽǺqǟ) ʔǺǹǕ ȏǟǺƞǖǣ ƙǺȞȒţǟ ŌǺǒşǕ ·ȣǺȣÎǒǟ Ǻǯǭǖ øǟǺǫ ŌÒÎǣş ÛǦǦǺƨǟ ÛŌǒǺǺţǟ ÛƙǫǟǺǒǟ ŌǯƞǦǺŸǪƯ ǧǺȞȓǭǨ ōǺǺȴ ȷǭÒǺ ȷǕ ȷǕ Ǽƶş ÛǧǺǺȝǺȒɫŸǒ ǺǻǟǽȞǫèǟ Ǻǯǭǖ ȷǭǺÊţǟ ŌǒØǭş ǧǟǭǺè 5øǒǟ ȸè ǨƠ ȯǺǺùɉǟ ǦǺǭǼǧ ǧǟǻǺȒƞ ÛǦǺƞǟǺǫƞ ȏǟǺƞǖǣ ȷǭǣǺÔţǣş ÛȷǭǺÊţǣş ȸǺǺŤÎǒǟ ȸè ǨƠ ȯǺǺùɉǟ ʔÛȞǺ ʔÛȞǨ ȷǕ Ǽƶ Ǻɫǭ Ǖ(ȯǭÒǼǼǺƞǟøǭŸǭş Ûȯşǟ ÊǭǭǫǺǭǭ ÛƙŸǼÊǼÊǭǭƞǕ ÛƙŸÊǼǦƞǕ) ǦǺǭȞƞ ǯøǺǹ ǧǺǺȝǺȒƞ ȝƞ ǦŌǭǟǺǫţǟ Ǽƞɉǟ ǦŸǺǭÛǒǟ ʔɫΣǟ ȏǺţ ǦǺǭǼΣǟ ǧǟǻǺȒţǟ

·(Benenson, 1990)

ǥǻǽȞǫƞ ǦƞşǺŌƞ ȝƞ ǧŸǮǫǭɫŸÊǒǟ Ƀøǟøǣ ȸƞ ǦǼǒǺȝ ǦǦÊǫ ȷǟǽŸǣ ǥǽȝ Ž ǧǽȴǭǐ ȳǟǽǺǫèǟ Ž ǺŤùǟǺǭǕ ǭȴ ǦǼȝǺÔǒǟ ȯşǽǒǟ Ž ǟØŤ ɄÊǼǟǺǒǟ ǼǦÊǒǟ ·ǦǺǭǼΣǟ ǧǟǻǺȒɫŸǒ ǦǺǒǭǣ ǥǽǼŌƞ Ƙȡ ǦǺşǻüǣ ǦƨǺȞţǟ БǕ ǦǭǺȓǕ ǺȴǭƳ ǥǻǺǺǒ ǧǺǫǟǭǼΣǟ ȳǺȞùǕ Ž ǦǺǭǼΣǟ ǧǟǻǺȒţǟ ǧǟǻǺȒɫŸǒ ɄǟǺŌǨɍǟ ȳǟǽǺǫèɍǟ ʔǻǕ ʔɫŢȞǒǟ ǺǼǫǺÛǺǺǣ Ž ·ǧǺǫǟǭǼΣǟş ȷǺÊǫqǟ ȸƞ ŌÒǒ ǦǼǺǼǫǒǟ ǦŸǮǫǭɫŸÊǒǟ ȸƞ ǦƞşǺŌţǟ ǥǻǽȞǫƞ Ƀøǟøǣ ǒǭÎǫ БǕ ɃǺŌǦǒǟ ǧŸǮǫǭɫŸÊǒǟ ǒǟǻ ǽȓ ǦǺǭǼΣǟ ǦǺǣşǕş ǧǺǼǐǺǭ ǨǫǽǦ·ǥǨǯǭ ǧǭƞ ǧȓǺǥ ȝƞ ǧǺǭ ǟǭè ǫşǽǦ ǨǦǦè ɄøǫǒǟǦǺøùǺǒǟ ȝƞ ÛǧǺǫǺȒΣǟş ȯǺǺùɉǟ ǧǼǺÎǫÊƞ Ž ǥǻǽȞǫƞ ǦǼŸÔƞ ȓǺɣǕ ȸƞ ǦƞşǺŌţǟ ǥǻǽȞǫţǟ ɃøǟøØǒǺǣ ƪǭ ɃØǒǟ ǒǺǣǭǒǟ ǖÎǫ ·ȝǺǨǺƞ ǧǺǭş ȯǽȞƞş ǺǺǺȞÊǒǟ ȃǺŤǫǒǟ şǕ Ƀǭƞǽǒǟ ȷǺǫqǟ ǧǺȝǺȒƞ ȯşǻ ǥǽȞǒ ǺÎǫǫǟş 1969 ȳǺȝ ǺǟǺǺƨǟ Ž Wein ɄŸÔţǟ ÙɫǺǒǟ ȸƞ ǦƞşǺŌţǟ ǥǻǽȞǫƞ Ƀøǟøǣ ȸȝ ȯşǻ ǥǽȝ Ž ʔǺǹǕ ǦǺǣşǕ ǨǫǽǦ ·ǦǼǟǽØǒǟ ǦŸÊŸÊǒǟ Ž øǽÔţǟ ȤÎǫǺ Ɓ ·ǦǼǣşøşǕş ǦǺǭǼèǕ ŌɫȞǒǟ ǦǺƨ ÛǦǼţǺȞǒǟ ǦȞÔǒǟ ǦɫȚǺƞ) 208 ɃǭǼǫǺȞǒǟ Ùɫǟǒǟ ȸƞ ǦǺǭǼǺǺǒǟ ǦǺǭǼǫǒǟ ǦŸǮǫǭɫŸÊǒǟ ǼǦÊǣ ÛǦǼƞǺǺǒǟ ȯşǽǒǟ Ž ǒǺȞƞǫǟ ǦǦŤŸţǟ ǦŸǮǫǭɫŸÊǒǟ ǦÛèǭǣ ǥƘǹɉǟ ǧǟǭǺÊǒǟ ȯŸǹ (1980 ɄɫŸȞǒǟ ÛÛǦǼǺØǒǟ ǦƨǺȞţǟ ǭȴ ǦƞşǺŌţǟ ǥǻǽȞǫţǟ ǧŸǮǫǭɫŸÊǒǟ Ƀøǟøǣ ǒǭÎǺǒǟ ɄÊǼǟǺǒǟ ǼǦÊǒǟ ȷǭÒǺ ǽę

·ǦÀòş ɉşå ǦÀźĿǵ ğäåÀȒȶŸö ǦŋÀȞöä òźòş ǦöźŦè ȸȝ ǨȶŌ ɄøǪöä

Æę ·ǦÀDZäÆöäş ǦÀƎöä ǦĿφäźĿΣä ŏÀźǭɉä ȸŋ Ȝèäş āÀȑ ğŸĿφźȶŸÊŸö ·ğÀφäźĿΣä Ž ôÀţä ʔÆö ɉźȮǩ Æę ·ɃÀÀÊöä ǨƠ ŌȮÎöä Ž ·ɉźȮǩ ɍ Æęş ĬÀÀÀè ǥÀȽÀş ʔşÆȞöä ɉźȮǩ ĬŸŋÀǵ ɉźȮÀ Æę şǖ ·¢ÀÆö ǦĿÀȶŸöä ÆŌȞöä Ž ôäÀȶţä Ƀşǖ ɉǖ ȸȮɛş ǕǦĿźÀǹ ʔşÆȝ ɉäźĿΣä ǥÆȝ ÆDZźǩ ·ȴäå ŌȮÎæ şǖ ȜǕŎǪŋ ŌȮÎæ şǖ ǕŎĿŸę ŌȮÎæ ȻäÀæ Ž ŌŋÀȞöä dzÀǕÀş ôÀȶŸö Ōǯŋ Ǖţ źÀöä Ȝŋ ǦÀĿȮǪŋ ǦĿŸÔŋ ȓÀƴɉ ʔÀȞǩ ǦÀDZäÆöä ğÀφäźĿΣä Ž ǦȞəÀȉ ǦÀÀÀè ğÀφźÀĿŌ ʔşäÆȝ ȴDzÀǩ ·*abortus equi* *ŎĿÀŸö ǦȒŦŎä ǦŸĿφźȶŸÊöä* şǖ *pullorum* *ǦĿȓäÀÀöä ǦŸĿφźȶŸÊöä*

·ȸÀåÆȞǪŋ ŏÀźǭǖ ğäæ ǦĿŸÔŋ ȓÀƴǖ ȸȝ ǥÀȽÀş ƘȡşǖĬÀÀÀè ǥÀȽÀş ʔÀǹǖ *ǦĿÀŸäÆöä ţäźφɉä* ɄȽ ǦĿȉÀţä Ž ɃÀÀÊöä ğŸĿφźȶŸÊöä ŏäÆö ǦĿÊĿəÀöä āÀǦèɉä ·ƕɉĭʅ

ǦȒÀÀŋ ğÀφäźĿǵ ȸŋ ʔÀǹǖ ȓÀƴǖ åÀÀǪÊǩ ɉǖ ȸȮɛş *ǕǦÀøűÀöä ǦĿÀĿǪöä ǦŸĿφźȶŸÊöäş* Dublin

·ĬφÀĿǵǖ

ĬǦÊφ òźDzȞöä Ž ÆÊǪȮÀ ȸȮö ǕɃåäÀź ŌȮÎæ Ǧ8öÀǦöä ǦĿȉÀţä Ž ğŸĿφźȶŸÊöä ŏäå ϙÆȜ *dublin* *ǦĿÀŸäÆöä* ɄŸÔţä ǙȶÀöä ·āÀŏ Ōŋäźȝ åźDZş ÆÀȝ ǥåÀȝ ôÀţä ϙÆȜ ǕǥåÀȝ ǦĿźäźè āÀȡ Ž ğÀĿȉÀÀöä ǨǪǦǪǖ ·ƘǪĿŌÀÀŋɉä Ž ·ɃøűæŽäÀ8DZ ţäźǩ ¢ö ǦĿȉÀţä Ȝŋ ȤĿŌǪţä āźÀDZş Àæşøşǖ Ž ĬȒÀǖ ϙÆƠş ·ƘǪDZøɉäş ŌÀäƎöäş ǕŸÀşÀøÀźş ǕǥÆĦǪţä ğÀɍźöä

·ÀĿŌÀÀźǖ

òÀŦèǖ ÀŦȞǦǪÀ ǕäƎöä Ž ǦÀźŋå ğÀǕŸDZ øźŦşş ǥÆÀÆȉ ʔȶɯ ôÀţä ǕÆǦÀ ·Ǧ8öÀǦöä ǦĿȉÀţä Ž ɄøÀǕǦöä Ƀɉä ğÀŋŸȝ ɉźȮǩ ÀȶŌ ·ŏäźÊöä Ƃǖ ȴÊƨä ǥøäÀǵ ǦDZøå Ž ôÀÀŸä Ż ǕÆÀÆȉ Žş ǕɉäźĿΣä ʔÀÎÀ Æę şǖ ÿÀÀǖ ǥÆȝ ÆȞæ ĬǪĿư ôÀţä ɉźȮÀ Æę ·ȜəÀȉ ôÀŦDZɋä ·ĬǨǯŌ ǥÀȽÀş ÀǯŌǖ òźDzȞöä ·ǥÆÀÆDZ ğɍÀǵ ÀŦŢǩş ʔşÆȞŸö ĬŸŋÀǵ ɉäźĿΣä ǴǦÔÀ Àŋ ĬǦöÀȡ ·ǦöÀΣä ȻǾȽ Ȝŋ ĬǦöÀȡ ǕǦĿŌĿŌǵ ǦĿəÀæş ğÀĿȉÀź Ƃǖ ʔşÆȞöä Ƀåűǩ ÀŦĿźş ǕǦ8öÀǦöä ğÀφäźĿΣä ȸŋ ĬåäÆȞǪèä ɉźȮǩ ʔşÆȞöä ŌŋÀǵ ǦöÀǵ ɉǖ ·ɉäÆöźöä Ž ɉÀźźöűŋ ğźţäş ÿÆöä ŻÀƟ ·ȜÀǩÀŋ ğÀĿźş òÆȞŋ ʔşÆȞöä ÀÎǪÀǩ ĬȶəäåĭǦ8öÀǦöä ǦĿȉÀţä Ž ɄÊĿəø ŌȮÎæ ϙÆƠş ğÀφäźĿΣä øÀ8ò Ƙæ ĬÀǩäźǩ Ōęǖ

·ĬȒÀǖ ƏŸöä Ž ÀŦŢÀ ɉǖ ȸȮź ȸȮöş ǕŌŋÀȞöä dzÀǕǩ ɄøǪöä ǥÀŎǦöä äÀÀæ ǦǕèäźæ ɄÊĿəÀöä ţåźǪÊţä ɄȽş *ǕǦŸĿφźȶŸÊŸö* ǦĿŸÔţä ȓÀƴɉä ȸŋ ÆÀÆȞŸö Ƀźǭ ÀÀäÀÀʅä ·ƥĭƦƒǪĭʅ

[illegible] .*enteriditis* [illegible] *dublin* [illegible] *choleraesuis* [illegible] 4-2 [illegible]

[illegible]

[illegible]

[illegible] *abortus ovis* [illegible] .(Timoney *et al.*, 1988)

[illegible] *abortus equi* [illegible]

[illegible] 1990 [illegible] %97.8 [illegible] 1991 [illegible] var. *copenhagen* [illegible] *copenhagen* [illegible] .(Bauerfeind *et al.*, 1992) 1991 [illegible]

[illegible] .(Trimoney *et al.*, 1988) [illegible]

[illegible] .(Timoney *et al.*, 1988) [illegible] *pullorum* [illegible]

ǖďǿ ÛȷÅÊφŘǒ ǨǨǯǒ ǦȓÄư ĶÊǨǒ ƗĿş ·ǦǍĎŽǟǼǒǎ ǿƺǨÛǒǎ ʒŋ ǦǍǨȮǪŋ *qallinarum* ǦǨĎŽǍĎŽǼǒǎ ǼǑǒ ·ȯǍǍǜȷǎ Ž ǨǨǍǒş Ǽę ȓǍƴȷǎ ǇǾĿ ǍȚǪǦǦè ƗøǪǒǎ ğŸǨǫƺŧŸÊǒǎ ǒǎǻ ğɍǍǵ ȷǗ ǇǾĿ ƎǪǨǨ ǼǦÊǒǎ ŌǒǾǒş ÛǦǍĎŽǎǻ ǿƺǨǜ ȸŋ ǍǨǟǯǪŋ ǑȮÎǟ ʔǍǹǗ ǦǨŸǑŋ ȓǍƴǗ ǵǼʒ ğǻǍǍǪèǎ ·ğŸǨǫƺŧŸÊŸǒ ǦǨÊǨǝǍǒǎ ğǍʒǻƺǪÊţǎ ʔǼǵǗ ğǍφǟƺǨΣǎ

*ǦǨȓǎǍǍǒǎ ǦŸǨǫƺŧŸÊǒǎ* ·ƗŸÔţǎ ǛŧǍǒǎ ȼǦǦÊǍ ɃǾǒǎ Ûpullorum ȏǎǍǍǒǎ ȏǍŋ Ƀǻǜǎ ğǎǿǍÊǹ БǗ Û*gallinarum* *ǦǨĎŽǍĎŽǼǒǎ ǦŸǨǫƺŧŸÊǒǎ* ȼǦǦÊǍ ɃǾǒǎ ÛǦǍǨÛǒǎ ǦǨǍǨǪǒǎş Û*pullorum* ȷǍȓǍţǎ ȷǎǾĿş ·ȣǍǒ ǑȮÎǟ ǍȞƺǍȮǍ Ɓ ǎǣǗ ǦǍĎŽǟǼǒǎ ǿƺǨÛǒǎ ţǿǎǍŋ Ž ǵǨÛǹ ǦǍǻǍÔǪęǎ ǍȚȚǍ ·ğƺţǎş ǦȓǎǍţǎ ȸŋ ǦǨǒǍʒ ǦǦÊφ ʒŋ ğǍǨȉǍƺ БǗ ȷǍǍǻǜǍş ƁǍǨǒǎ ǒǍǓǗ ʒǨƤ Ž ȷǎǍÎǪǍŋ ǑŋǍǨǒǎ ǑǑǪǍǍ ·ǨǨǍǨǍŋ ğǍǨƺş ȯǼǨŋ ǼǦÊǍş ǵǨΣǎ ȸŋ ƙʒƺǦèǗ ȯşǗ ȯŸǹ ȏǎǍǍǒǎ ȏǍŋ ǦǍǼǨǍŋ ǨȓƺǨǟ ʔşǼǨŸǒ ǦŸŋǍΣǎ ǿƺǨÛǒǎ ȐǨǦǨ ÛƗǑƺǗ ǑȮÎǟ ǑǑǪǍǍ ȼφǗ ǍŧȌ ɃǻƺŋǍʒ ǑȮÎǟ ǑǑǪǍǨş ǦȣǒǍǦǒǎ ǿƺǨÛǒǎ Ž ƗÊǨǝǿ ǑȮÎǟ ǦǍǨÛǒǎ ǦǨǍǨǪǒǎ ǫǼƠ ·ȸȓǍǂǎş ȀǨǑǍǪǒǎ ğɍǗ ǫƺŸǨ ȷƺȮǨ ·ǦǍǼǨǍţǎ ǦǍĎŽǟǼǒǎ ǿƺǨÛǒǎ ţǿǎǍŋ Ž ·ʔşǼǨŸǒ ǑŋǍΣǎ ǨÛǒǎ ȸŋ ǦǍǎǎƎǒǎ ǵǍţǎ ǦÛèǎƺǟ ·ʔşǼǨŸǒ ğǍʒǻƺǪÊŋ ǨǍĿǍş ǦȞǨȞÔǒǎş ǵǍƺǍǨţǎ ǿƺǨÛǒǎ

ǍǯǒǗ ÛǵǼȞǪţǎ ğǍɍƺǒǎ Ž ·ǍǨǟƺǪŋ ǑȮÎǟ ǍȚǍǼǨǨ ǍȐǍǗ ǿƺǨÛǒǎ ʒŋ ǦǍǨȮǪţǎ ğŸǨǫƺŧŸÊǒǎ ƗŋşǍǒǎ ŌǍǼǒǎ şǗ/ş ǯǍĎŽǼǒǎ ȸŋ ğǻǍǍǪèǎ *ǦŸǨǫƺŧŸÊǒǎ* ţǟƺφǗ ȸŋ ƗŸÔŋ Ǜƴ 200 ȸŋ ǿƺǨÛǒǎ ɃǼǨǨ ȷǍÊφǫǎ ǖĎŽǍǿ ƗøǪǒǎ ǦǨŸÔţǎ ȓǍƴȷǎ Ǒǒ ǨǦǍǍǒǨ ·(Nagaraja et al., 1991) Ž ʔşǼǨǒǎ ȷƺȮǨ ·ǦȞǨȞÔǒǎ ǿƺǨÛǒǎ ȸŋ ǻǍǍǪÊǍ ǦǨŸÔţǎ ȓǍƴȷǎ ǇǾĿ ȐǨǟş ǒǎƺÊǒǎ ʔŸʒ ǍǿǿƺȮ ȷƺȮǨ ǵǍǨΣǎ ȸŋ Бşȷǎ ʒǨǟǍèȷǎ ȯŸǹ ȸǑǒş Ûǵǻʒ ȏǎǍʒȷǎ ǦƺǼʒ ǦȣǒǍǦǒǎ ǿƺǨÛǒǎ ÛǻǿǾţǎ ǿǍÔǵǗ ÛǦǨǦÔʒ ȏǎǍʒǗ ÛǦǨȚȉ ȷǍǼǑƺ) pullorum ȏǎǍǍǒǎ ȏǍţ ǦǒǍÎŋ ǦǍǍǍÊǒǎ ǫǼƠ ÛǵǍǨΣǎ ȸŋ ƙǒşȷǎ ƙʒƺǦèȷǎ ȯŸǹ ʔŸʒȷǎ ğǍǨƺƺǒǎ ǫǼƠ ·(ǦǨǒǍȚèǗ ǦǍǎǎǍǟ ǵǻǍŋ ʒŋ ǼǨǟ ğƺţǎ ğɍǍǵ Ƶęƺǫǎ ·ȀǨǑǍǪǒǎ ǼǨǟ Ǎŋ ǍȉǍǨǒǎş ȃǻǍÊǒǎ ȳƺǨǒǎ ƙǟ ğǎǿǍÊȴǎ ǖȚǨŋ ǵǼʒ ʔǑǦǨ ȸǑǒ ÛǵǍǨΣǎ ȸŋ ʒǨǟǍèǗ ǦǪŸǫ ǼǨǟ ǎǿǻǍφ ȷƺȮǍ ȏǍŧŸǒ ǨǍǍǍè ǍĿǍȚǒǎ ǑȮÎǒǎ ·ǍȚȉ ·(Nagaraja *et al.*, 1991) ʔşǼǨŸǒ ǦŸŧȞǒ ǿƺǨǜ

ȷǗ ȸǑǫ ·*typimurium* *ǦǿǨǍǒǎ ǦǨǍǨǪǒǎ ǦŸǨǫƺŧŸÊǒǎ* ƺĿ ǟşȷǎş ǛǦǒǎ Ž ǨʒƺǨȉ ǍǯǒȷǎǑŋǍǨǒǎ şǗ ÛȏǎǍǍǒǎ ȏǍŋ Ž ȯǍΣǎ ƺĿ ǍŧȌ ÛǦȐǨǦǒǎ Ǵŋ БǗ ǦȐǍǍţǎ ȐǍǍǦţǎ ȸŋ ʔşǼǨǒǎ ǑǑǪǍǨ

[illegible]

[illegible] (*Larus* [illegible] 227 [illegible] %8.4 [illegible] *argentatus*) [illegible] *montevideo* [illegible] .(Butterfield *et al.*, 1983; Coulson *et al.*, 1983) [illegible]

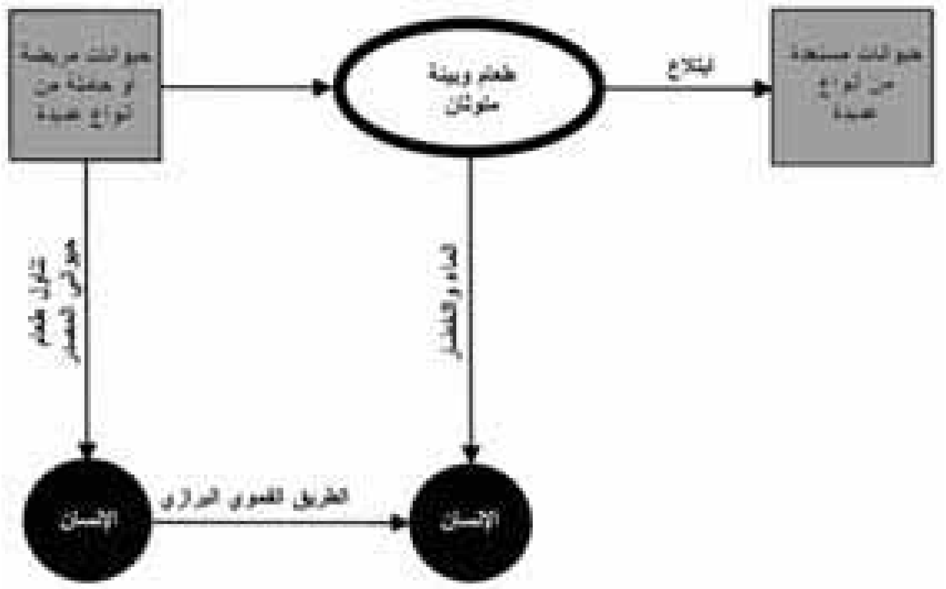
[illegible] %3.4 [illegible] 974 [illegible] .*dwardsiella* [illegible] (*Arizona hinshawii* [illegible]) *arizanae* [illegible] 195 [illegible] (%11.8) [illegible] .(*Proechimys semispinosus*) [illegible] 704 [illegible] 8 [illegible]

[illegible]

[illegible] 311 [illegible] %37 [illegible] .(%3) [illegible] (%55 [illegible]) [illegible]

[illegible] 24 [illegible] 39 *choleraesais* [illegible] *arizanae*. [illegible]
.(Cambre *et al.*, 1980) [illegible]

[illegible] :17 [illegible]



[illegible] :(17 [illegible]) [illegible] 400 :1991 [illegible] 7 [illegible] 6 [illegible] *poona* [illegible]
(Publ hith news abst hyg [illegible]

[illegible] .Comm. Dis 60 (9): 210, 1991)
[illegible] (*typhi* [illegible]) [illegible]
[illegible] 1965 [illegible]
[illegible] 100 [illegible]
.(Aserkoff *et al.*, 1970) [illegible] 16000 [illegible]
[illegible]
[illegible] 1980 [illegible] .(D'Aoust, 1989) [illegible]
[illegible] 347 [illegible] %51.3 [illegible] :1983
(Humphrey [illegible] 177 [illegible] %32.2 [illegible] :1985 [illegible] 1984 [illegible]
[illegible] .*et al.*, 1988)
173 [illegible]
[illegible] 4 [illegible]
[illegible] 17 [illegible] 118
[illegible]
[illegible] 3 [illegible]
[illegible] (%0.001 [illegible]) [illegible]
[illegible] .(Stevens *et al.*, 1980) [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] 3 [illegible]

[illegible] *marina* [illegible] (CDC, 1992b) %77 [illegible] %36 [illegible] (D'Aoust *et al.*, 1990) *arizanae* [illegible] *Poona* [illegible] (Mores and Duncan, 1974) [illegible] 4 [illegible] 14 [illegible] 95 [illegible] (1991 [illegible]

[illegible] (CDC, 1991) [illegible]

[illegible]

*pollorum* … *gallinarum* … *dublin*

[illegible] *pollorum* [illegible]

[illegible]

[illegible] 4 – 2 [illegible]

[illegible] *Dublin* [illegible]

[illegible] dublin [illegible]

[illegible] 50 [illegible] (Kramer *et al.*, 1992) [illegible]

[illegible] (1988 [illegible]

[illegible] 60) [illegible]

[illegible] hadar [illegible] 1992 – 1991 [illegible] %6 [illegible] %2 [illegible] (McIlroy *et al.*, 1989) [illegible]

[illegible]


Ager, E.A., F.H. Top, Sr. Salmonellosis. *In:* Top, F.H., Sr., P.F. Wehrle, eds. *Communicable and Infectious Diseases*, 7th ed. Saint Louis: Mosby; 1972.

Aserkoff, B., S.A. Schroeder, P.S. Brachman. Salmonellosis in the United States—a five-year review. *Am J Epidemiol* 92:13–24, 1970.

Barker, R., D.C. Old, J.C. Sharp. Phage type/biotype groups of *Salmonella typhimurium* in Scotland 1974–6: Variation during spread of epidemic clones. *J Hyg* 84:115–125, 1980.

Bauerfeind, R., L.H. Wieler, R. Weiss, G. Baljer. [Comparative plasmid profile analysis of *Salmonella typhimurium* var. *Copenhagen* strains from a *Salmonella* outbreak in hospitalized horses.] *Berl Münch Tierärztl Wochenschr* 105:38–42, 1992.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Binsztein, N., T. Eiguer, M. D'Empaire. [An epidemic of salmonellosis in Buenos Aires and its suburbs.] *Medicina* 42:161–167, 1982.

Bryan, F.L. Current trends in food-borne salmonellosis in the United States and Canada. *J Food Protect* 44:394–402, 1981.

Butterfield, J., J.C. Coulson, S.V. Kearsey, P. Monaghan, J.H. McCoy, G.E. Spain. The herring gull *Larus argentatus* as a carrier of *Salmonella*. *J Hyg* 91:429–436, 1983.

Buxton, A., H.I. Field. Salmonellosis. *In:* Stableforth, A.W., I.A. Galloway, eds. *Infectious Diseases of Animals*. London: Butterworth; 1959.

Cambre, R.C., D.E. Green, E.E. Smith, R.J. Montali, M. Bush. Salmonellosis and arizonosis in the reptile collection at the National Zoological Park. *J Am Vet Med Assoc* 177:800–803, 1980.

Clarenburg, A. Salmonellosis. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Coulson, J.C., J. Butterfield, C. Thomas. The herring gull *Larus argentatus* as a likely transmitting agent of *Salmonella montevideo* to sheep and cattle. *J Hyg* 91:437–443, 1983.

D'Aoust, J.Y. *Salmonella*. *In*: M.P. Doyle, ed. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

D'Aoust, J.Y., E. Daley, M. Crozier, A.M. Sewell. Pet turtles: A continuing international threat to public health. *Am J Epidemiol* 132:233–238, 1990.

Edwards, P.R., W.H. Ewing. *Identification of* Enterobacteriaceae. 3rd ed. Minneapolis: Burgess; 1972.

Edwards, P.R., M.M. Galton. Salmonellosis. *Adv Vet Sci* 11:1–63, 1967.

Eiguer, T., M.I. Caffar, G.B. Fronchkowsky. [Significance of Salmonella enteritidis in outbreaks of diseases transmitted by foods in Argentina, 1986–1988]. *Rev Argent Microbiol* 22:31–36, 1990.

Farmer, J.J., III, A.C. McWhorter, D.J. Brenner, *et al.* The *Salmonella-Arizona* group of *Enterobacteriaceae*: Nomenclature, classification and reporting. *Clin Microbiol Newsletter* 6:63–66, 1984.

el-Gazzar, F.E., E.H. Marth. Salmonellae, salmonellosis, and dairy foods: A review. *J Dairy Sci* 75:2327–2343, 1992.

Gunn, R.A., Bullón, F. Salmonella enterocolitis: Report of a large foodborne outbreak in Trujillo, Peru. *Bull Pan Am Health Organ* 13(2):162–168, 1979.

Hargrett-Bean, N.T., A.T. Pavia, R.V. Tauxe. *Salmonella* isolates from humans in the United States, 1984–1986. *MMWR Morb Mortal Wkly Rep* 37 (Suppl 2):25–31, 1988.

Humphrey, T.J., G.C. Mead, B. Rowe. Poultry meat as a source of human salmonellosis in England and Wales. Epidemiological Overview. *Epidemiol Infect* 100:175–184, 1988.

Kourany, M., L. Bowdre, A. Herrer. Panamanian forest mammals as carriers of *Salmonella*. *Am J Trop Med Hyg* 25:449–455, 1976.

Kramer, T.T., M.B. Roof, R.R. Matheson. Safety and efficacy of an attenuated strain of *Salmonella choleraesuis* for vaccination of swine. *Am J Vet Res* 53:444–448, 1992.

Le Minor, L., M.Y. Popoff. Request for an opinion. Designation of *Salmonella enterica* sp. nov., nom. rev., as the type and only species of the genus *Salmonella*. *Int J Syst Bacteriol* 37:465–468, 1987.

McIlroy, S.G., R.M. McCracken, S.D. Neill, J.J. O'Brien. Control, prevention and eradication of *Salmonella enteritidis* infection in broiler and broiler breeder flocks. *Vet Rec* 125(22):545–548, 1989.

McLaren, I.M., C. Wray. Epidemiology of *Salmonella typhimurium* infection in calves: Persistence of salmonellae on calf units. *Vet Rec* 129:461–462, 1991.

Morse, E.V., M.A. Duncan. Salmonellosis—an environmental health problem. *J Am Vet Med Assoc* 165:1015–1019, 1974.

Murray, M.J. *Salmonella*: Virulence factors and enteric salmonellosis. *J Am Vet Med Assoc* 189:145–147, 1986.

Nagaraja, K.V., B.S. Pomeroy, J.E. Williams. Paratyphoid infections. *In*: Calnek, B.W., H.J. Barnes, C.W. Beard, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*. 9th ed. Ames: Iowa State University Press; 1991.

Peluffo, C.A. Salmonellosis in South America. *In*: Van Oye, E., ed. *The World Problem of Salmonellosis*. The Hague: Junk; 1964.

Pietzsch, O. Salmonellose-Überwachtung in der Bundesrepublik Deutschland einschl. Berlin (West). *Bundesgesundhbl* 25:325–327, 1982.

Pietzsch, O. Salmonellose-Überwachtung bei Tieren, Lebens-und Futtermitteln in der Bundesrepublik Deutschland einschl. Berlin (West), 1984/85. *Bundesgesundhbl* 29:427–429, 1986.

Poehn, H.P. Salmonellose-Überwachtung beim Menschen in der Bundesrepublik Deutschland einschl. Berlin (West). *Bundesgesundhbl* 25:320–324, 1982.

Rodrigue, D.C., R.V. Tauxe, B. Rowe. International increase in *Salmonella enteritidis*: A new pandemic? *Epidemiol Infect* 105:21–27, 1990.

Silliker, J.H. The *Salmonella* problem: Current status and future direction. *J Food Protect* 45:661–666, 1982.

Skerman, V.B.D., V. McGowan, P.H.A. Sneath. Approved list of bacterial names. *Int J Syst Bacteriol* 30:225–420, 1980.

Smith, B.P., M. Reina-Guerra, S.K. Hoiseth, B.A. Stocker, F. Habasche, E. Johnson, *et al.* Aromatic-dependent *Salmonella typhimurium* as modified live vaccines for calves. *Am J Vet Res* 45:59–66, 1984.

Stevens, A., C. Joseph, J. Bruce, *et al.* A large outbreak of *Salmonella enteritidis* phage type 4 associated with eggs from overseas. *Epidemiol Infect* 103:425–433, 1989.

Tauxe, R.V., M.P. Tormey, L. Mascola, *et al.* Salmonellosis outbreak on transatlantic flights; foodborne illness on aircraft: 1947–1984. *Am J Epidemiol* 125:150–157, 1987.

Taylor, J., J.H. McCoy. *Salmonella* and *Arizona* infections. *In*: Riemann, H., ed. *Food-Borne Infections and Intoxications*. New York: Academic Press; 1969.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca, New York: Comstock; 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Salmonella Surveillance. Annual Summary 1980*. Atlanta: CDC; 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Update: *Salmonella enteritidis* infections and shell eggs—United States, 1990. *MMWR Morb Mortal Wkly Rep* 39:909–912, 1990.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Foodborne nosocomial outbreak of *Salmonella reading*—Connecticut. *MMWR Morb Mortal Wkly Rep* 40 (46):804–806, 1991.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Outbreak of *Salmonella enteritidis* infection associated with consumption of raw shell eggs, 1991. *MMWR Morb Mortal Wkly Rep* 41:369–372, 1992a.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Iguana-associated salmonellosis—Indiana, 1990. *MMWR Morb Mortal Wkly Rep* 41 (3):38–39, 1992b.

United States of America, National Academy of Sciences, National Research Council. An evaluation of the *Salmonella* problem. Washington, D.C.: National Academy of Sciences; 1969.

WHO Expert Committee on Microbiological Aspects of Food Hygiene. *Microbiological aspects of food hygiene. Report of a WHO expert committee with the participation of FAO.* Geneva: WHO; 1968. (Technical Report Series 399).

WHO Expert Committee on Salmonellosis Control. *Salmonellosis Control: The Role of Animal and Product Hygiene. Report of a WHO Expert Committee*. Geneva: WHO, 1988. (Technical Report Series 774).

WHO Scientific Working Group. Enteric infections due to *Campylobacter, Yersinia, Salmonella*, and *Shigella*. *Bull World Health Organ* 58:519–537, 1980.

WHO Surveillance Programme for Control of Foodborne Infections and Intoxications in Europe N° 28:4–5, 1991.

Wilkins, E.G., C. Roberts. Extraintestinal salmonellosis. *Epidemiol Infect* 100:361–368, 1988.

Williams, L.P., B.C. Hobbs. *Enterobacteriaceae* infections. *In*: Hubbert, W.T., W.P. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

# SHIGELLOSIS [illegible]

[illegible] A.03.1 [illegible] ICD–10 A03.0 [illegible] A03.2 [illegible] A03.3 [illegible] A03.8

**ICD-10 A03.0 shigellosis due to *Shigella dysenteriae*; A.03.1 shigellosis due to *Shigella flexneri*; A.03.2 shigellosis due to *Shigella boydii*; A03.3 shigellosis due to *Shigella sonnei*; A03.8 other shigellosis**

[illegible]

.*Enterobacteriaccac* [illegible] Shigella [illegible] *S. dysenteriae* [illegible] *boydii* [illegible] (B [illegible]) *flexneri* [illegible] (A [illegible]) *sonnei* [illegible] (C [illegible]) [illegible] 38 [illegible] .(Keusch and Bennish, 1991)

[illegible]

[illegible] 48 – 24 [illegible] 1 [illegible]

[illegible]

[illegible] 1 [illegible] 1970 – 1969 [illegible] 1 [illegible] 1300 [illegible] 1972 – 1970 [illegible] 140 [illegible] clone [illegible] 112000 [illegible] (1987 [illegible]) [illegible] 1972 [illegible] 1969 [illegible] 10000 [illegible] 540 [illegible] 1 [illegible] 1991 [illegible] .(CDC, 1991) [illegible] 10000 [illegible] 5-1 [illegible] %67.7 [illegible] 1987 [illegible] 16567 [illegible] (1987 [illegible] %1.4 [illegible] %2.1 [illegible] %22.2 [illegible] %6.6 [illegible] .(Keusch and Bennish, 1991)

200 [illegible] (1991 [illegible]) [illegible] 650000 [illegible] (Bennett, cited in Wachsmuth [illegible] 300000 [illegible] .and Morris, 1989)

[illegible] 1987 [illegible] %50 [illegible] 12700 [illegible] 90 [illegible] .(Wharton *et al.*, 1990) [illegible]

[illegible] .(Levine and Lanata, 1983) [illegible]

[illegible] 1 [illegible] 1984 [illegible] .(L'Hote, 1980) [illegible] (*Hylobates concolor* [illegible]

[illegible] (*Macaca silenu, M. nigra* and *M. sylvanus*) [illegible] and *H. Syndaotylies*) [illegible] 1984 [illegible] (*Gorilla gorilla*) [illegible] (*Colobus guerzea*) [illegible] 1988 [illegible] .(Banish *et al.*, 1993a) [illegible] (*Ateles susciceps*) [illegible] (*Cercocelus alligena*) .(Banish *et al.*, 1993a) [illegible]

[illegible] 7 – 1 [illegible] .(Keusch and Bennish, 1991) [illegible]

[illegible]

[illegible] .(Banish *et al.*, 1993a) [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] MacConkey [illegible] (XLD) [illegible]

[illegible] 12-6 [illegible] (1991 [illegible]

[illegible] (1991 [illegible])

[illegible] 11 [illegible] 1988 [illegible] %64 [illegible] 1989 [illegible]

[illegible] %85 [illegible] %42 [illegible]
.(Cohen *et al.*, 1991) [illegible]

[illegible] (1) [illegible] (2) [illegible] (3) [illegible] (4) [illegible] 5) [illegible] 10 [illegible] 24 [illegible] 85 [illegible] 12-10 [illegible]
.(Bannish *et al.*, 1993b)

## [illegible]


Banish, L.D., R. Sims, D. Sack, *et al.* Prevalence of shigellosis and other enteric pathogens in a zoologic collection of primates. *J Am Vet Med Assoc* 203:126–132, 1993a.

Banish, L.D., R. Sims, M. Bush, *et al.* Clearance of *Shigella flexneri* carriers in a zoologic collection of primates. *J Am Vet Med Assoc* 203:133–136, 1993b.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bennett, J.V. Cited in: Wachsmuth, K., G.K. Morris. *Shigella*. *In*: Doyle, M.P. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Cohen, D., M. Green, M. Block, *et al.* Reduction of transmission of shigellosis by control of houseflies (*Musca domestica*). *Lancet* 337:993–997, 1991.

Edwards, P.R., W.H. Ewing. *Identification of* Enterobacteriaceae. 3rd ed. Minneapolis: Burgess; 1972.

Fiennes, R. *Zoonoses of Primates*. Ithaca: Cornell University Press; 1967.

Keusch, G.T., M.L. Bennish. Shigellosis. *In*: Evans, A.S., P.S. Brachman, eds. *Bacterial Infections of Humans*. 2nd ed. New York: Plenum Medical Book Co.; 1991.

Keusch, G.T., S.B. Formal. Shigellosis. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New Jersey: McGraw-Hill; 1984.

Levine, M.M., C. Lanata. Progresos en vacunas contra diarrea bacteriana. *Adel Microbiol Enf Inf* 2:67–118, 1983.

Lewis, J.N., E.J. Gangarosa. Shigellosis. *In*: Top, F.H., Sr., P.F. Wehrle, eds. *Communicable and Infectious Diseases*. 7th ed. Saint Louis: Mosby; 1972.

L'Hote, J.L. Contribution à l'étude des salmonelloses et des shigelloses des primates. Zoonoses [thesis]. École Nationale Vétérinaire de Lyon, 1980.

Ruch, T.C. *Diseases of Laboratory Primates*. Philadelphia: Saunders; 1959.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Shigella dysenteriae* type 1—Guatemala, 1991. *MMWR Morb Mortal Wkly Rep* 40(25):421, 427–428, 1991.

Wachsmuth, K., G.K. Morris. *Shigella*. *In*: Doyle, M.P. *Foodborne Bacterial Pathogens*. New York: Marcel Dekker; 1989.

Wharton, M., R.A. Spiegel, J.M. Horan, *et al.* A large outbreak of antibiotic-resistant shigellosis at a mass gathering. *J Infect Dis* 162:1324–1328, 1990.

WHO Scientific Working Group. Enteric infections due to *Campylobacter*, *Yersinia*, *Salmonella*, and *Shigella*. *Bull World Health Organ* 58:519–537, 1980.

Williams, L.P., B.C. Hobbs. *Enterobacteriaceae* infections. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

World Health Organization (WHO). Development of vaccines against shigellosis: Memorandum from a WHO meeting. *Bull World Health Organ* 65:17–25, 1987.

World Health Organization (WHO). Research priorities for diarrhoeal disease vaccines: Memorandum from a WHO meeting. *Bull World Health Organ* 69(6):667–676, 1991.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## [illegible]
## STAPHAYLOCOCCAL FOOD POISONING

### [illegible] ICD-10 A05.0
### ICD-10 A05.0 foodborne staphylococcal intoxication

[illegible] *Staphylococcus aureus* [illegible] *hyicus* [illegible] *intermedius* [illegible]

[illegible] [1] [illegible]

[illegible]

[illegible] 131 [illegible] 1981 [illegible] 1977 [illegible] 7126 [illegible] (D [illegible] C [illegible]) [illegible] (Holmberg and Blake, 1984) [illegible] 827 [illegible] 1980 [illegible] 1976 [illegible] (Genigeorgis, [illegible] %28.2 [illegible] 8742 [illegible] 1989).

[illegible] (Bergdoll, 1979) [illegible]

[illegible] (*Macaca mulatto* [illegible]) [illegible]

[illegible]

(Gillespie and Timoney, 1981)

%48.6 174 %41.4 %33.3 C %29.2 B %5.6 A

1056 %33.4 %31.1

%10.7 D %27 C %54.3 A

D C A D

(Kato and Kume, 1980)

*S. intermedius*

115 %13

A

(Kaji and Kato 1980) D C

520 13

21 6 *intermedius*

D C

(Hirooka *et al.*, 1988) 1 4 E

[illegible] (Raska *et al.*, 1980) [illegible] %100 [illegible] (Genigeorgis, 1989) [illegible] %72 [illegible]

[illegible] 3 [illegible] 30 [illegible] 8 [illegible] °38 [illegible] 72 – 24 [illegible]

[illegible] %35 [illegible] %30 [illegible]

[illegible] .(Pulverer, 1983) %75 [illegible] %18 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] 500 [illegible]

(Holmberg and [illegible] 1981 [illegible] 1977 [illegible]

[illegible] 854 [illegible] .Blake, 1984)

[illegible] 144 [illegible] A [illegible]

.(Evenson *et al.*, 1988) [illegible]

[illegible]

[illegible] Semna [illegible]

.(Cross *et al.*, 1988) [illegible] B [illegible]

1984 [illegible]

[illegible] 1985 [illegible]

[illegible]

[illegible] .(Bone *et al.*,1989) A

[illegible]

[illegible]

[illegible]

[illegible] 59 – 46 [illegible]

C [illegible] A [illegible] D [illegible] A [illegible] C [illegible]

[illegible] .(Gutierrez, *et al.*, 1982)

[illegible]

80/81 ... 80/81 ...

... %47.3 ... %77.2 ... 715 ... 215 ... (Genigeorgis, 1989) ...

[illegible] 13 [illegible] 5 [illegible] 85 [illegible] (Waterman, *et al.,* [illegible] .1987)

[illegible]

[illegible]

[illegible] (Windemann [illegible] (ELISA) [illegible] .and Baumgartner, 1985; Shinagawa *et al.,* 1990) .(Benenson, 1990) [illegible]

[illegible]

[illegible]

## [illegible]


Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bergdoll, M.S. The enterotoxins. *In:* Cohen, J.O., ed. *The Staphylococci.* New York: Wiley; 1972.

Bergdoll, M.S. Staphylococcal intoxications. *In:* Riemann, H., F.L. Bryan, eds. *Food-Borne Infections and Intoxications.* 2nd ed. New York: Academic Press; 1979.

Bergdoll, M.S., C.R. Borja, R.N. Robbins, K.F. Weiss. Identification of enterotoxin E. *Infect Immun* 4:593–595, 1971.

Bergdoll, M.S., B.A. Crass, R.F. Reiser, R.N. Robbins, J.P. Davis. A new staphylococca enterotoxin, enterotoxin F, associated with toxic-shock-syndrome *Staphylococcus aureus* isolates. *Lancet* 1:1017–1021, 1981.

Bergdoll, M.S., R. Reiser, J. Spitz. Staphylococcal enterotoxin detection in food. *Fooc Techn* 30:80–83, 1976.

Bone, F.J., D. Bogie, S.C. Morgan-Jones. Staphylococcal food poisoning from sheep milk cheese. *Epidemiol Infect* 103:449–458, 1989.

Casman, E.P., R.W. Bennett. Detection of staphylococcal enterotoxin in food. *App Microbiol* 13:181–189, 1965.

Cohen, J.O., P. Oeding. Serological typing of staphylococci by means of fluorescent anti bodies. *J Bact* 84:735–741, 1962.

De Nooij, M.P., W.J. Van Leeuwen, S. Notermans. Enterotoxin production by strains of *Staphylococcus aureus* isolated from clinical and non-clinical specimens with special reference to enterotoxin F and toxic shock syndrome. *J Hyg* 89:499–505, 1982.

Evenson, M.L., M.W. Hinds, R.S. Bernstein, M.S. Bergdoll. Estimation of human dose of staphylococcal enterotoxin A from a large outbreak of staphylococcal food poisoning involving chocolate milk. *Int J Food Microbiol* 7:311–316, 1988.

Fluharty, D.N. Staphylococcocis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Genigeorgis, C.A. Present state of knowledge on staphylococcal intoxication. *Int J Food Microbiol* 9:327–360, 1989.

Gillespie, J.H., J.F. Timoney. *Hagan and Bruner's Infectious Diseases of Domestic Animals*. 7th ed. Ithaca: Comstock; 1981.

Gross, E.M., Z. Weizman, E. Picard, *et al.* Milkborne gastroenteritis due to *Staphylococcus aureus* enterotoxin B from a goat with mastitis. *Am J Trop Med Hyg* 39:103–104, 1988.

Gutiérrez, L.M., I. Menes, M.L. García, *et al.* Characterization and enterotoxigenicity of staphylococci isolated from mastitic ovine milk in Spain. *J Food Protect* 45:1282–1285, 1982.

Hirooka, E.Y., E.E. Müller, J.C. Freitas, *et al.* Enterotoxigenicity of *Staphylococcus intermedius* of canine origin. *Int J Food Microbiol* 7:185–191, 1988.

Holmberg, S.D., P.A. Blake. Staphylococcal food poisoning in the United States. New facts and old misconceptions. *JAMA* 251:487–489, 1984.

Kaji, Y., E. Kato. Occurence of enterotoxigenic staphylococci in household and laboratory dogs. *Jpn J Vet Res* 28:86–94, 1980.

Kato, E., T. Kume. Enterotoxigenicity of bovine staphylococci isolated from California mastitis test-positive milk in Japan. *Jpn J Vet Res* 28:75–85, 1980.

Live, I. Staphylococci in animals: Differentiation and relationship to human staphylococcosis. *In*: Cohen, J.O., ed. *The Staphylococci*. New York: Wiley; 1972.

Merchant, I.A., R.A. Packer. *Veterinary Bacteriology and Virology*. 7th ed. Ames: Iowa State University Press; 1967.

Mossel, D.A.A., F. Quevedo. *Control microbiológico de los alimentos*. Lima: Universidad Nacional Mayor de San Marcos; 1967.

Pulverer, G. Lebensmittelvergiftugen durch Staphylokokken. *Bundesgesundhbl* 26:377–381, 1983.

Raska, K., V. Matejosvska, L. Polak. To the origin of contamination of foodstuff by enterotoxigenic staphylococci. Proceedings of the World Congress of Foodborne Infections and Intoxications. Berlin: Institute of Veterinary Medicine; 1980.

Shinagawa, K., K. Watanabe, N. Matsusaka, *et al.* Enzyme-linked immunosorbent assay for the detection of staphylococcal enterotoxins in incriminated foods and clinical specimens from outbreaks of food poisoning. *Jpn J Vet Sci* 52:847–850, 1990.

Thatcher, F.S., D.S. Clark. *Análisis microbiológico de los alimentos*. Zaragoza: Acribia; 1972.

Waterman, S.H., T.A. Demarcus, J.G. Wells, P.A. Blake. Staphylococcal food poisoning on a cruise ship. *Epidemiol Infect* 99:349–353, 1987.

Windemann, H., E. Baumgartner. Bestimmung von Staphylokokken-Enterotoxinen A, B, C und D in Lebensmitteln mittels Sandwich-ELISA mit markierten Antikörper. *Zbl Bak Hyg I Abt Orig B* 181:345–363, 1985.

# STREPTOCOCCOSIS [illegible]

**G00.2 [illegible] ICD-10 A 38 [illegible]**

**[illegible] J02.0 [illegible]**

**(*S. suis* and other species of interest) ICD-10 A 38 scarlet fever;**
**G00.2 streptococcal meningitis; J02.0 streptococcal pharyngitis**

.scarlatina [illegible]

[illegible] *streprococcus* [illegible] Suis [illegible]

[illegible] 20 [illegible] .(Higgisn *et al.,* 1992) [illegible] 29 [illegible]

[illegible] .(Timoney *et al.,* 1988) [illegible] (Kunz [illegible] .and Moellering, 1981)

[illegible] 2 [illegible] D [illegible]

[illegible]

[illegible] 30 [illegible] 1984 [illegible] 1968 [illegible] 1985 [illegible] 1968 [illegible] 30 [illegible] .(Arends and Zanen, 1988)

[illegible] (*pyogenes* [illegible]) A [illegible] (*agalactiae* [illegible]) B [illegible] G [illegible] C [illegible] H [illegible] E [illegible] *acidominimus* [illegible] *uberis* [illegible] *lactis* [illegible] *cremoris*

[illegible] *zooepidemicus* [illegible] .(Gallis, 1990) [illegible] G [illegible]

[illegible] (B [illegible]) *agalactiae* [illegible] (C [illegible]) *equi* [illegible] strangles [illegible] *suis* [illegible]

[illegible] 1988 [illegible] 60 [illegible] *suis* [illegible] %50 [illegible] %7 [illegible] 28 [illegible] 30 [illegible] 4 [illegible] 2 [illegible] .(Arends and Zanen, 1988) [illegible] 100000 [illegible] 3 [illegible]

[illegible] *pyogenes* [illegible] exanthema [illegible]

[illegible] (Rheumatic) [illegible]

[illegible] A [illegible] A [illegible] B [illegible] *Escherichia coli* [illegible] *Staphylococcus* [illegible] B [illegible] B [illegible] B [illegible] .(Patterson and el Batool Hafez, 1976)

[illegible] C [illegible] 16 [illegible] 1983 [illegible] *zooepidemius* [illegible] C [illegible] .(CDC, 1983)

[illegible] 3 [illegible] 8 [illegible] 1984 [illegible] 1983 [illegible] .(Barrett, 1986) *zooepidemicus* [illegible] 1990 [illegible] 1982 [illegible] 11 [illegible]

[illegible] 11 [illegible] 5 [illegible] %22 [illegible] .(Yuen *et al.,* 1990)

[illegible] C [illegible] *S. equisimilis* [illegible] C [illegible] (Duca *et al.,* [illegible] .1969)

[illegible] D [illegible] s.bovin [illegible] enterococci [illegible] .D [illegible] (Kunz [illegible] .and Moellering, 1981) [illegible] (a [illegible]) "viridans" [illegible] .(Benenson, 1990) [illegible]

[illegible] D [illegible] .(Timoney *et al.,* 1988) [illegible] %5 [illegible] 663 [illegible] %21 [illegible] .(Clifton – Hadley, 1984)

[illegible] 2/1 [illegible] 2 [illegible] 26 [illegible] 20 [illegible] %12 [illegible] 3 [illegible] 2 [illegible] 1 [illegible] 2 [illegible] .(Higgins and Gottschatk, 1992) [illegible] 7 [illegible] %75 [illegible] 7 [illegible] 3 [illegible] 7 [illegible] 7 [illegible] 1 [illegible] .(Boetner *et al.*, 1987) [illegible] 2 [illegible] .(Cook *et al.*, 1988) [illegible] (Ossowicz *et al.*, 1989) [illegible] 9 [illegible] 4 [illegible] 3 [illegible] 9 [illegible] .(Gogolewski *et al.*, 1990) [illegible]

[illegible] 2 [illegible] 5 [illegible] .(Hommez *et al.*, 1988) [illegible]

[illegible] 2 [illegible]

B [illegible] S. aglactiae (S. mastitidis [illegible] uberis [illegible] (C [illegible]) (S. dysgalactcia) [illegible] (E [illegible]) [illegible] *S.pyogenes* [illegible]

[illegible] (C [illegible]) *S. equi* [illegible]

[illegible] (C [illegible]) *S. equisimilis* [illegible]

[illegible] S. zooepidemicus [illegible]

[illegible] (C [illegible]) S. zooepidemicus [illegible] .(Timoney *et al.*, 1988) [illegible] .(Timoney *et al.*, 1988) [illegible]

[illegible]

[illegible] 15 – 5 [illegible] 105 [illegible] 603 [illegible] 1944 [illegible] 1920 [illegible]

[illegible]

[illegible] (1968) [illegible]

[illegible]

[illegible] (S. agalactiae [illegible] %30 [illegible] %7) [illegible]

[illegible] (%1 [illegible]) [illegible]

[illegible] agalactiae [illegible]

[illegible]

.(Patterson and el Batool Hafeez, 1976) [illegible]

[illegible]

[illegible] (Van den Heever and Erasmus, 1980; Berglez, 1981) [illegible]

[illegible] *S. zooepidemicus* [illegible] (Rose *et al.*, 1980) [illegible] (Yuen *et al.*, 1990) [illegible]

[illegible] 2 [illegible] *S. suis* [illegible] %50 [illegible] %3 [illegible] (Clifton – Hadley and Alexandre, 1980) [illegible] 45 [illegible] *S. suis* [illegible] (Robertson *et al.*, 1991) [illegible]

[illegible] M, L, G [illegible]

[illegible] *S. pyogenes* [illegible] [B] [illegible] [C] [illegible]

[illegible]

[illegible] [B] [illegible] (Jones *et al.*, 1983) [illegible] [B] [illegible]

[illegible]

[illegible] 49 [illegible] 1716 [illegible] Quebec [illegible] 23 [illegible] %5 [illegible] 539 [illegible] 2 [illegible]

2 ... %93.1 ... %88.7 ... %94.5 ... .(Moreau *et al.*, 1989)

... 2 ... (Tiamulin) ... .(Fraser *et al.*, 1991) ... (Chengappo *et al.*, 1990) .2 ...

... B ... %2.8 ... 4 ... %35.9 ... .(Fischer *et al.*, 1983) ...

*S. agalactiae* ...

[illegible] (CMT) [illegible] *S. dysagalactiae* [illegible] .*S. zooepidemicus* [illegible] .*S. equi* [illegible] .(Timoney *et al.*, 1988) [illegible]

## [illegible]


Arends, J.P., H.C. Zanen. Meningitis caused by *Streptococcus suis* in humans. *Rev Infect Dis* 10:131–137, 1988.

Barrett, N.J. Communicable disease associated with milk and dairy products in England and Wales: 1983–1984. *J Infect* 12:265–272, 1986.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Berglez, I. Comparative studies of some biochemical properties of human and bovine *Streptococcus agalactiae* strains. *Zbl Bakt Hyg I Abst Orig* 173:457–463, 1981.

Boetner, A.G., M. Binder, V. Bille-Hansen. *Streptococcus suis* infections in Danish pigs and experimental infection with *Streptococcus suis* serotype 7. *Acta Pathol Microbiol Scand [B]* 95:233–239, 1987.

Chengappa, M.M., L.W. Pace, J.A. Williams, *et al.* Efficacy of tiamulin against experimentally induced *Streptococcus suis* type 2-infection in swine. *J Am Vet Med Assoc* 197:1467–1470, 1990.

Clifton-Hadley, F.A. Studies of *Streptococcus suis* type 2 infection in pigs. *Vet Res Commun* 8:217–227, 1984.

Clifton-Hadley, F.A., T.J. Alexander. The carrier site and carrier rate of *Streptococcus suis* type II in pigs. *Vet Rec* 107:40–41, 1980.

Cook, R.W., A.R. Jackson, A.D. Ross. *Streptococcus suis* type 1 infection of suckling pigs. *Aust Vet J* 65:64–65, 1988.

Davies, A.M. Diseases of man transmissible through animals. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Duca, E., G. Teodorovici, C. Radu, A. Vita, P. Talasman-Niculescu, E. Bernescu, *et al.* A new nephritogenic streptococcus. *J Hyg* 67:691–698, 1969.

Eickhoff, T.C. Group B streptococci in human infection. *In*: Wannamaker, L.W., J.M. Matsen, eds. *Streptococci and Streptococcal Diseases: Recognition, Understanding, and Management*. New York: Academic Press; 1972.

Fischer, G., R.E. Horton, R. Edelman. From the National Institute of Allergy and Infectious Diseases. Summary of the National Institutes of Health workshop on group B streptococcal infection. *J Infect Dis* 148:163–166, 1983.

Fluharty, D.M. Streptococcosis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Fraser, C.M., J.A. Bergeron, A. Mays, S.E. Aiello, eds. *The Merck Veterinary Manual*. 7th ed. Rahway: Merck; 1991.

Gallis, H.A. Viridans and β-hemolytic (Non-Group A, B, and D) streptococci. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd

ed. New York: Churchill Livingstone, Inc.; 1990.

Gogolewski, R.P., R.W. Cook, C.J. O'Connell. *Streptococcus suis* serotypes associated with disease in weaned pigs. *Aust Vet J* 67:202–204, 1990.

Higgins, R., M. Gottschalk. Distribution of *Streptococcus suis* capsular types in Canada in 1991. *Can Vet J* 33:406, 1992.

Hommez, J., J. Wullepit, P. Cassimon, *et al. Streptococcus suis* and other streptococcal species as a cause of extramammary infection in ruminants. *Vet Rec* 123:626–627, 1988.

Jones, D.E., E.M. Friedl, K.S. Kanarek, J.K. Williams, D.V. Lim. Rapid identification of pregnant women heavily colonized with group B streptococci. *J Clin Microbiol* 18:558–560, 1983.

Kunz, L.J., R.C. Moellering. Streptococcal infection. *In*: Balows, A., W.J. Hausler, Jr., eds. *Diagnostic Procedures for Bacterial, Mycotic, and Parasitic Infections*. 6th ed. Washington, D.C.: American Public Health Association; 1981.

MacKnight, J.F., P.J. Ellis, K.A. Jensen, B. Franz. Group B streptococci in neonatal deaths. *Appl Microbiol* 17:926, 1969.

Merchant, I.A., R.A. Packer. *Veterinary Bacteriology and Virology*. 7th ed. Ames: Iowa State University Press; 1967.

Moreau, A., R. Higgins, M. Bigras-Poulin, M. Nadeau. Rapid detection of *Streptococcus suis* serotype 2 in weaned pigs. *Am J Vet Res* 50:1667–1671, 1989.

Ossowicz, C.J., A.M. Pointon, P.R. Davies. *Streptococcus suis* isolated from pigs in South Australia. *Aust Vet J* 66:377–378, 1989.

Patterson, M.J., A. el Batool Hafeez. Group B streptococci in human disease. *Bacteriol Rev* 40:774–792, 1976.

Robertson, I.D., D.K. Blackmore, D.J. Hampson, Z.F. Fu. A longitudinal study of natural infection of piglets with *Streptococcus suis* types 1 and 2. *Epidemiol Infect* 107:119–126, 1991.

Rose, H.D., J.R. Allen, G. Witte. *Streptococcus zooepidemicus* (group C) pneumonia in a human. *J Clin Microbiol* 11:76–78, 1980.

Stollerman, G.H. Streptococcal disease. *In*: Beeson, P.B., W. McDermott, eds. *Cecil-Loeb Textbook of Medicine*. 12th ed. Philadelphia: Saunders; 1967.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Group C streptococcal infections associated with eating home-made cheese—New Mexico. *MMWR Morb Mortal Wkly Rep* 32(39):510, 515–516, 1983.

Van den Heever, L.W., M. Erasmus. Group B *Streptococcus*—comparison of *Streptococcus agalactiae* isolated from humans and cows in the Republic of South Africa. *J S Afr Vet Assoc* 51:93–100, 1980.

WHO Expert Committee on Streptococcal and Staphylococcal Infections. *Streptococcal and Staphylococcal Infections. Report of a WHO Expert Committee*. Geneva: WHO; 1968. (Technical Report Series 394).

Yuen, K.Y., W.H. Seto, C.H. Choi, *et al. Streptococcus zooepidemicus* (Lancefield group C) septicaemia in Hong Kong. *J Infect* 21:241–250, 1990.

# TETANUS [illegible]

[illegible] **A34** [illegible] **ICD-10 A33**

[illegible] **A35**

**ICD-10 A33 tetanus neonatorum; A34 obstetrical tetanus; A35 other tetanus**

.Lockjaw [illegible] Trismus [illegible]

[illegible] *clostridium tetani* [illegible] neurotoxin [illegible] 2.5 – 2 [illegible] 0.5 – 0.3 [illegible] Tetanospasmin [illegible] 0.3 [illegible] 2.5 [illegible] .(Orenstein and Wassilak., 1991) [illegible] .(Finn *et al.*, 1984) [illegible]

[illegible]

[illegible] 1960 – 1950 [illegible] 8.50 [illegible] 100000 [illegible] 0.16 [illegible]

[illegible] 1987 [illegible] 100000
%90 – %60 [illegible] 1973 [illegible] 1030000 [illegible] 1680000
.(Orenstein and Wassilak, 1991) [illegible]
[illegible] 34 [illegible] 117 [illegible] 1990 [illegible] 1989 [illegible]
[illegible] %58 [illegible] 100000 [illegible] 0.02
[illegible] 60 [illegible]
[illegible] %50 [illegible] 49 [illegible] 40 [illegible] %17 [illegible]
.(CDC, 1993) [illegible] 80 [illegible]

[illegible]

[illegible]
.(Vera Matinez *et al.*, 1976) [illegible]

1.2 :1977 – 1965 [illegible]
100000 [illegible] 3.1 [illegible] 1967 [illegible] 100000 [illegible] 1.7 [illegible]
[illegible]
1968 [illegible]
[illegible] 1973 [illegible]
[illegible] 15 [illegible] %35.8
[illegible] 4 [illegible] .(Mazzafero *et al.*, 1981) [illegible]
[illegible] 1990 [illegible] .1977 [illegible] 1967 [illegible]
7 [illegible] 1992 [illegible] 38 [illegible] 1991 [illegible] 49
[illegible]
(Argentina Ministerio de Salud [illegible]
.y Accion Social 1990, 1991 and 1992)

(trismus) ... (rictus) ... 14 ...

1990 – 1989 ... 1969 ... %60 ... 1947 ... %90 ... 80 ... %50 ... 49-40 ... %17 ...

.(Cate, 1990)

1977 – 1967 [illegible] 4 [illegible]

| [illegible] | [illegible] | [illegible] | [illegible] 100000 |
|---|---|---|---|
| [illegible] | 168.8 | 4221 | 3.9 |
| Catamarca | 3.4 | 175 | 1.9 |
| Corrientes | 19.2 | 587 | 3.3 |
| Chaco | 38.5 | 572 | 6.7 |
| formosa | 14.2 | 248 | 5.6 |
| Jujuy | 6.7 | 323 | 2.1 |
| Misiones | 15.3 | 470 | 3.3 |
| Salta | 20.4 | 533 | 3.8 |
| Santiago del Estero | 15.7 | 519 | 3.0 |
| Tucuman | 32.6 | 794 | 4.1 |
| [illegible] | 217.6 | 19409 | 1.1 |
| Federal District | 18.5 | 2974 | 0.6 |
| Buenos Aires | 111.9 | 9289 | 1.2 |
| Cordoba | 20.9 | 2177 | 0.9 |
| Entre Rios | 16.5 | 838 | 1.9 |
| La pampa | 3.4 | 177 | 2.2 |
| La Rioja | 0.6 | 193 | 0.4 |
| Mendoza | 4.5 | 1025 | 0.4 |
| San Juan | 3.1 | 403 | 0.7 |
| San Luis | 1.5 | 187 | 0.8 |
| Santa Fe | 36.2 | 2200 | 1.6 |
| [illegible] | 3.7 | 762 | 0.5 |
| Chubut | 0.6 | 202 | 0.3 |
| Rio Negro | 1.3 | 281 | 0.4 |
| Neuquen | 1.6 | 170 | 0.9 |
| Santa Cruz | 0.2 | 94 | 0.2 |
| Tierradel del Fuego | - | 15 | 0.0 |

[illegible] IU 500 [illegible]
.(Cate, 1990) [illegible]

[illegible]

[illegible] 14 – 2 [illegible] 10 [illegible] 4 [illegible]

[illegible] IU 300000 [illegible] 12 [illegible]
(Fraser *et al.*,
.1991)

[illegible]

[illegible]

[illegible] $^{1972}$ [illegible] $^{1946}$ [illegible] $^{2337}$ [illegible] $^{\%38.7}$ [illegible] $^{\%31.7}$ [illegible] $^{\%7.7}$ [illegible] *Tunga penetrans* [illegible] (Vera Martinez *et al.*, [illegible] .1976)

[illegible] (McComb, [illegible] $^{1980}$; Benenson, 1990) (Wilson [illegible] .and Miles, 1975; Smith, 1975) [illegible]

[illegible]

[illegible] $^{3-2}$ [illegible]

[illegible] diphtheria [illegible] DPT [illegible] 3 [illegible] 6 [illegible] (tetanus [illegible] pertussi [illegible] 18 [illegible] %90 [illegible] 13 – 5 [illegible] .(Halsey and de Quadros, 1983) [illegible] 10 [illegible] 455803 [illegible] 100000 [illegible] 10 [illegible] .(antitoxin [illegible] 3 [illegible] .(Stanfield and Galazka, 1984) [illegible] 5 [illegible]

[illegible] antitoxin [illegible]

[illegible] 10 [illegible]

.(Benenson, 1990)

IU 3000 ... 2000

.(Faser *et al.*, 1991)

.(Cameron, 1983) ... 4 ... 3


Argentina, Ministerio de Salud y Acción Social. Boletines Epidemiológicos Nacionales, 1990, 1991, and 1992.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bytchenko, B. Geographical distribution of tetanus in the world, 1951–60. *Bull World Health Organ* 34:71–104, 1966.

Cameron, C.M., B.J. Van Biljon, W.J. Botha, P.C. Knoetze. Comparison of oil adjuvant and aluminium phosphate-adsorbed toxoid for the passive immunization of lambs against tetanus. *Onderstepoort J Vet Res* 50:229–231, 1983.

Cate, T.R. *Clostridium tetani* (Tetanus). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Cvjetanovic, B. Epidemiología del tétanos considerada desde un punto de vista práctico de salud pública. *Bol Oficina Sanit Panam* 75:315–324, 1973.

Finn, C.W., Jr., R.P. Silver, W.H. Habig, M.C. Hardegree, *et al.* The structural gene for tetanus neurotoxin is on a plasmid. *Science* 224:881–884, 1984.

Fraser, C.M., J.A. Bergeron, A. Mays, S.E. Aiello, eds. *The Merck Veterinary Manual*. 7th ed. Rahway: Merck; 1991.

Halsey, N.A., C.A. de Quadros. *Recent Advances in Immunization*. Washington, D.C.: Pan American Health Organization; 1983. (Scientific Publication 451).

Mazzáfero, V.E., M. Boyer, A. Moncayo-Medina. The distribution of tetanus in Argentina. *Bull Pan Am Health Organ* 15(4):327–332, 1981.

McComb, J.A. Tetanus (Lockjaw). *In*: H. Stoenner, W. Kaplan, M. Torten, eds. Vol 2, Section A: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1980.

Orenstein, W.A., S.G.F. Wassilak. Tetanus. *In*: Evans, A.S., P.S. Brachman, eds. *Bacterial Infection of Humans*. 2nd ed. New York: Plenum Medical Book Co.; 1991.

Rosen, H.M. Diseases caused by clostridia. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.

Rosen, M.N. Clostridial infections and intoxications. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Smith, J.W.G. Diphtheria and tetanus toxoids. *Br Med Bull* 25(2):177–182, 1969.

Smith, L.D. Clostridial diseases of animals. *Adv Vet Sci* 3:465–524, 1957.

Smith, L.D. *The Pathogenic Anaerobic Bacteria*. 2nd ed. Springfield: Thomas; 1975.

Spaeth, R. Tetanus. *In*: Top, F.H., Sr., P.F. Wehrle, eds. *Communicable and Infectious Diseases*. 7th ed. St. Louis: Mosby; 1972.

Stanfield, J.P., A. Galazka. Neonatal tetanus in the world today. *Bull World Health Organ* 62:647–669, 1984.

Tavares, W. Profilaxis do tetano. Fundamentos e critica de sua realização. *Rev Assoc Med Bras* 28:10–14, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Tetanus surveillance—United States, 1989–1990. *MMWR Morb Mortal Wkly Rep* 42:233, 1993.

Vera Martinez, A., C.M. Ramirez Boettner, V.M. Salinas, R. Zárate. Tétanos: estudio clínico y epidemiológico de 2.337 casos. *Bol Oficina Sanit Panam* 80:323–332, 1976.

Wilson, G.S., A. Miles. Vol. 2. *Topley and Wilson's Principles of Bacteriology, Virology, and Immunity*. 6th ed. Baltimore: Williams & Wilkins; 1975.

World Health Organization (WHO). Guidelines for the prevention of tetanus. *WHO Chron* 30:201–203, 1976.


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## TICK-BORNE RELAPSING FEVER

### ICD10 A68.1

.Borreliasis

*Spirillum* ... *Borrelia* ... (*Spironema* ... *Spirochaeta* ...

[illegible] *Ornithodoros hermsii* [illegible] *Borrelia hermsii* [illegible] *B. brasiliensis* [illegible] *O. brasiliensis* [illegible] *B. hispanica* [illegible] *B. venzuelensi* [illegible] *Q. erraticus* [illegible] .*O. verrucosus* [illegible] *B. caucasica* [illegible] *O. rudis* [illegible]

[illegible] *B. recurrenti* [illegible] 0.5-0.2 [illegible] 20-3 [illegible] *B. parkeri* [illegible] *B. duttoni* [illegible] .(Kelly, 1984) [illegible] *B. turicata*

[illegible]

[illegible] *O. mobubata* [illegible] *O.* [illegible] *O. rudis* [illegible] *turicata*

[illegible] 278 [illegible] 1969 [illegible] 15 [illegible] 1976 [illegible]

46 16 62 1973

1976 .(Harwood and James, 1979) 11 6

10.000 7 14

10 4

(CDC, .1991)

7 18 4 °41

.(Barbour, 1990) 7 – 4 7 – 3

[illegible] (Barbour, DNA [illegible] .1990)

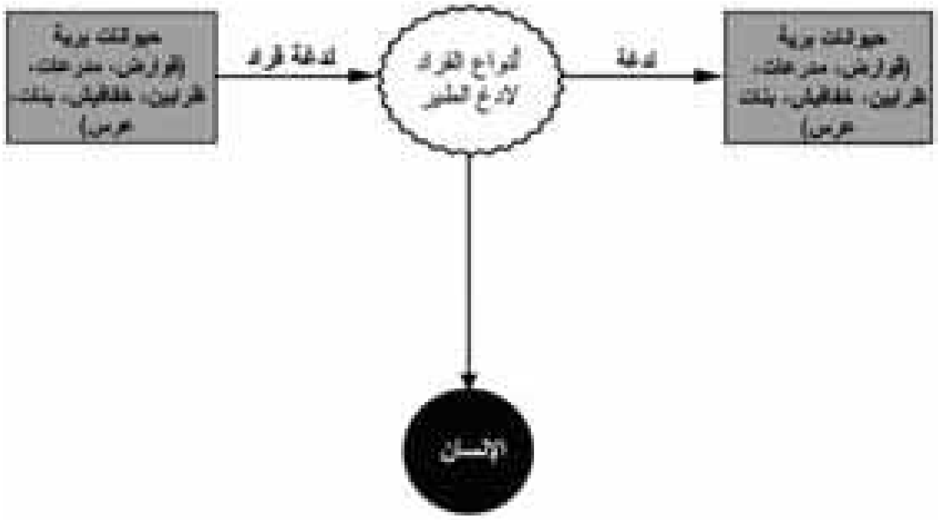
[illegible] %5 [illegible] %2 [illegible]

[illegible] *Argas persicus* [illegible] *B. anserina* [illegible] *B. theileri* [illegible] *A. miniatus* [illegible] *Margaropus decoloratus* [illegible] *Rhipicephalus evertsi* [illegible]

[illegible] (18 [illegible] *argasid* [illegible] %100 [illegible] %1 [illegible] *O. turicata* [illegible] *O. rudis* [illegible] *O. hermsii*

ǻăÀÕöä ğăÂŧŋ ǦĤǤÛöä Ž ǦĔöǿʐǦŸö ÀŧǪÊţä ʝăǿşÆöä ȸŧȒÀ .*O. tulaje* ǗǹŗÅǬǖ ǨÛǖ ȟǻŗ ğăæ ĘùÀÀŋ Ž *O. hermsii* ǗÊŋÄŢǖ ǨÛǖ ȟǻŗ Ì ĔĤÀ .ǦÀÆĤÀŋ ǦÀÀæ ğÅǬăʐĔǵ ʔŸʒ ÀȚǪÀǾ8Ǩş ȏǿăʐÕöä ǿʐĤǱǱ Ž ÆǱǱʐǨ ʝǗ ȸÒƺş ÛÆǱǱÀÀÊöä ȳǻ ʔŸʒ ʔǾ8ǪǨ Ûȳ 1000 ȸʒ ÆÀÂÀ ţÀÀǨǿä ğÅǬăʐĔǵ БǗ ǦʐÅȑqÀæ ÛÂʒÀţăş ȳÀÀȡȷä ǗǿǨÒÀǿʐǬǖ ǨÛǖ ȟǻŗ ÆĔÔÀ .ǦĔǤÎɭä ƿăʐÕȷăş .ÀÀäÀÀɭä ÀəÀŢǵş ğÅĔΣăş ȏǿăʐÕöä ǿʐĤǱǱ Ž ǻʐŸƨä ÀÎǪʒş ʔÀǹǗ .ʔÆĤÀŋ ǻăÀę ǦȡÆŸæ ʝÅÊǬqǖ БǗ ȯÀÕǬŗä ǫÆʒ

.ȯÀÕǬŗä ăÀù - ǻăÀÕöÀæ ǦöʐÕÀţä ǦÊÕÀÀöä ʔŧΣä :18 ÕȮÎöä



ǨʒǻʐǪÊŋ ǦÀƎöä ğÅǬăʐĔΣä ȸŋ ǵÆÀÆʒ ţăʐǬǗ ÕȮÎǨ : ȏÀţä ğÅĔəÀæş Ž ğÅǬăʐĔΣä ǿşǻ ǗŁ ğÅʒǻʐǪÊŧȏ ÀŁǿÀǤǪʒÀæ ǦÀƎöä ğÅǬăʐĔΣăş ğăǻÀÕŸö ǦĔǤÊÀöä ǦĔƵȷăş .ǗǿǦǤÊöä ÕŋÀĤŸö Ž ʔşÆĤöÀāŸʒ ǦŢʐÀɨä Ž ǦŋÀŁ ǨǿăşǻǗ ÆĤŸÀ ÀƵŸȏ ÛȮì Ÿæ ÛȸÒöş Ûȇ ÀÕǬ ʒȑʐŋ Ž ÆǱǱʐǨ Ɓ ǗǿǪöä ÛÀĔÕÀÄʐǗ Ž *B. duttoni* ǦǬʐǨşÆǖ ǦĔöǿʐǦöÀæ ʔşÆĤöä ăÆʒ Àŋ .ǦĤǤÛöä
.*O. mobubata* ǗǿǨÀʐăʐţä ǨÛǖ ȟǻŗ ǻăÀÕöÀæ ʝÅÊǬqǖ БǗ ğÀìÀǤŋ ÕÕÀǨş ğÅǬăʐĔΣä

ȯŸǹ ȒÀÀţä ȳǻ Ž ȏÀŧţä ÕŋÀĤöä ǻʐǱş ʐÎȏ ʔŸʒ ǑĔÅÎǪöä ÆŧǪĤÀ :ǑĔÅÎǪöä şǗ ǦǱʐäÀù ğÅǹÀÛö ȳăÆÅǪèÀæ ǦŧŸŢţä ǦǵÀÊöÀæ ɃÀȚǑä ǑĤÀöä ĘÀÀù ȸʒ ǦĔŧΣä ǦŸǵÀţä .ʝăÀÀöä Ž ǴĔÕŸǪöÀæ şǗ ǛWright techniques ǨÀăǿ ğÆÀÕǪæ şǗ Giemsa ăÂŧĔ8æ ǦǬʐŸŋ ȳŸʐǗ

[illegible] 72 – 24 [illegible]

[illegible]

## [illegible]


Barbour, A.G. Antigenic variation of a relapsing fever *Borrelia* species. *Ann Rev Microbiol* 44:155–171, 1990.

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals*. 6th ed. Ithaca: Comstock; 1973.

Coates, J.B., B.C. Hoff, P.M. Hoff, eds. *Preventive Medicine in World War II*. Vol. VII: *Communicable Diseases: Arthropod-borne Diseases other than Malaria*. Washington, D.C.: Department of the Army; 1964.

Felsenfeld, O. *Borreliae*, human relapsing fever, and parasite-vector-host relationships. *Bact Rev* 29:46–74, 1965.

Francis, B.J., R.S. Thompson. Relapsing fever. *In*: Hoeprich, P.D., ed. *Infectious Diseases*. Hagerstown: Harper & Row; 1972.

Geigy, R. Relapsing fevers. *In*: Weinmann, D., M. Ristic, eds. Vol 2: *Infectious Blood Diseases of Man and Animals*. New York: Academic Press; 1968.

Harwood, K.F., M.T. James. *Entomology in Human and Animal Health*. 7th ed. New York: Macmillan; 1979.

Jellison, W.J. The endemic relapsing fevers. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Kelly, R.T. Genus IV *Borrelia*. *In*: Krieg, N.R., J.G. Holt, eds. Vol 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Pan American Health Organization. *Reported Cases of Notifiable Diseases in the Americas, 1969*. Washington, D.C.: PAHO; 1972. (Scientific Publication 247).

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Outbreak of relapsing fever—Grand Canyon National Park, Arizona, 1990. *MMWR Morb Mortal Wkly Rep* 40(18):296–297, 303, 1991.

# TULAREMIA [illegible] 7

[illegible] ICD10 A21.0 [illegible] ICD-10 A21.1 [illegible] A21.7 [illegible] A21.2 [illegible] A21.8

**ICD-10 A21.0 ulceroglandular tularaemia: A21.1 oculoglandular tularaemia; A21.2 Pulmonary tularaemia; A21.7 Generalized tularaemia; A21.8 other forms of tularaemia**

[illegible] Francis [illegible] .Ohara

[illegible] *Francisella tularensis* [illegible] biovars [illegible] (Jellison [illegible] A [illegible]) *tularensis* [illegible] B [illegible]) *palaearctica* (Olsufjev and Meshcheryakova, 1982) *mediaasitica* [illegible] biovars [illegible] *japonica* [illegible]

[illegible] %70 [illegible] %90 (*Sylvilagus* [illegible]

[illegible] %30–%10 (*holarctica* [illegible]) *palaearctica* [illegible]
[illegible]
.(Bell and Reilly, 1981) *palaearctica* [illegible]

[illegible] *palaearctica* [illegible]
[illegible] *palaearctica* [illegible]
*Lepus* [illegible]
[illegible] *F. tularensis* var. *mediaasiatica*
[illegible] *palaearctica* [illegible]
[illegible] *japonica* [illegible] *mediaasiatica* [illegible]
[illegible]
.(Sandstrom *et al.*, 1992) [illegible]

[illegible] 274 [illegible] 1184 [illegible]
1969 [illegible] 1960 [illegible]

[illegible] .225 [illegible] .1986 – 1977 [illegible]
0.6 [illegible] .(Rohrbach, 1988) [illegible]
– [illegible] – [illegible] .(Boyce, 1990) [illegible] 1.3 [illegible]

[illegible] (*Castor Canadensis* [illegible]) [illegible] %50 [illegible] (*Ondatra zibethicus*) [illegible] (Boyce, 1990) [illegible] 1026 [illegible] %23 [illegible] %63 [illegible] 31 [illegible] (Taylor *et al.*, 1991) [illegible] .(Akerman and Embil, 1982) 1979 [illegible] 1975 [illegible]

[illegible] 100 [illegible] 100 [illegible]

[illegible] (*Lepus timidus*) [illegible] 1500 [illegible] 1985 [illegible] 1973 [illegible] *palaearctica* [illegible] *Lepus europeus* [illegible] *L. timidus* [illegible] 109 [illegible] *L. timidus* [illegible] *L. europeus* [illegible] .(Morner *et al.*, 1988) [illegible]

.(Rohrbach, 1988) [illegible] 80/1 [illegible] 12 [illegible] 32 [illegible] (%6.2) [illegible] 90 [illegible] 34 [illegible] 6 [illegible] 40/1 [illegible] 56 [illegible] .(Schmid *et al.*, 1983) [illegible]

[illegible] 344 [illegible] 13 [illegible] 2004 [illegible] .(McKeever *et al.*, 1958) 80/1 [illegible] 10 [illegible]

[illegible] 10 – 1 [illegible] 5-3 [illegible] %85 [illegible] 5-3 [illegible]

[illegible] %7 [illegible] %1 [illegible] palae- [illegible] %0.5 [illegible] (arctica. [illegible]

[illegible] 20 – 15 [illegible] (Boyce, 1990). [illegible] 14 – 7 [illegible] palaearctica [illegible] (Scheel *et al.*, 1993). [illegible]

*F. tularensis* [illegible]

[illegible]

[illegible] 14 – 8 [illegible]

[illegible] *Dermacentor andersoni* [illegible]

[illegible] .(Rohrbach, 1988) [illegible]

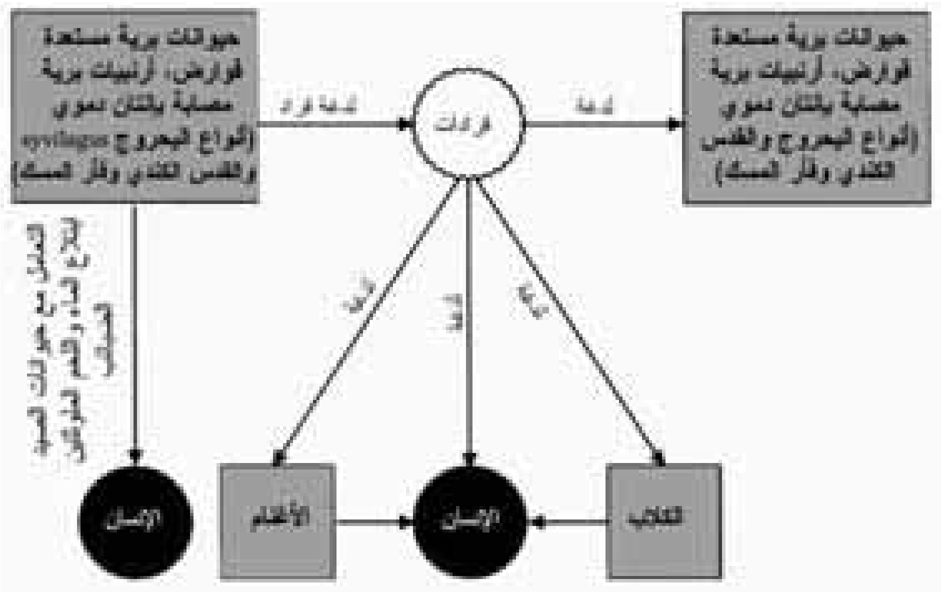
[illegible]

[illegible] *F. tularensis* [illegible] .160/1 [illegible] .(CDC, 1982) [illegible] .(Baldwin *et al.*, 1991) [illegible] 51 [illegible] 1928 [illegible] .(Capellan and Fong, 1993) [illegible]

[illegible] :(19 [illegible]) [illegible]

ğÀǫǟɀĿğ БǗ ĞÜÀţǟ ğÀǫǟɀĿΣǟ ȸŋ ȖøĞĞÊǟ ÔŋÀȞǟ ÕÕÀǩ ɼ ÛĞÀøɼɀǫǟ ĞŸÊĿÊǫÀÀŸǒ ĞĿDZɀǒɀĿǟ ÄȒÀǗ ȖĿş ·ÄȒÀǗ (interepizootic) ȖøĞĞǟ ȣǟɀÊŸǒ Äȝáɀ ǫÊŋ ÕÒÎǩ Õǟ ÛÙÕɀ ʔÀǹǗ ĞÕÛÀŋ ÕÒǒ ·transtadial ÕǵǟÀţǟ ĘÀÀù ȸȝş ȒĿĞţǟ ĘÀÀù – ȸȝ ǇĿǫǟÀƨǟ ÕÕǫ ȸȝ ĞǒşǘÊŋ ĿøǟşǟǗ ÆȞŸǩ Ȗøǫǟ ğǟǟÀÕǟ_ȸŋş ĞÀøÀÕÀǟ ğÀǫǟɀĿΣǟ ȸŋ ÀǯõǗ şǗ ţɀǫ ğÀǫǟɀĿΣÀǟ Ğǫɀùɀŋ ğÀĿĞǫøɟǟ ǨǫÀõ ǟǣǗ ÀŧĿɀ ȇÀÕǫ ɃÀƶ ·ĞȞĿĞÛǟ Ž ÀȚĿŸȝ ĞȚɀÀǂǟş ʔşÆȞǟ ÕÕǫ Ž ĞĿÊĿǝø ğÀŧÅȒŋ ǻÀf şǗ ĞĿÕĿÕǵ ğÀȝáɀǫÊŋ ȖĿ (Бşɟǟ Ğȝɀŧ Õǟ) ĿÆDZ ǥÆȞǫÊţǟ ôøǟɀÕǟş Ğȝɀŧ Õǟ) ĿǟǟÆȞǫèǟ Õęɟǟ ğÀǫǟɀĿΣǟ ɉǗ ÆÕǫȞÀ ·ɉÀÊǫqǟ ʔşÆȞǒ ȖÊĿǝÀǟ øÆÔţş amplifiers ·ĞŋÀȽ ğÀȝáɀǫÊŋ Ûğǟǟ ÀÕǟ ȝŋ Û(ĞĿǫÀǯǟ

ƙǫĿÒÀŋɟǟ Ž òÀÕǫɼǟ ǟÀù ÛĞĿɀøɼɀǫǟ :19 ÕÒÎǟ




øǻÀÔŋ ÕÒÎǩ ɉǗ ÀȚÀÓɀ ȸÒǒş ÛĞȓøÀȝ ǒÀÀɀǫǗ ÛÙÛÕǟş ȳÀȡɟÀõ ÛĞÀDZǟÆǟ ğÀǫǟɀĿΣǟ ·ÄȒÀǗ ɉÀÊǫqǟ ʔşÆȞǒ

òÀÕǫɼǟ ǟÀùş ʔşÆȞǟ øǻÀÔŋ ·ĞĿɀøɼɀǫŸǒ ĞĿȞĿĞÛǟ øǘĞǟ ȼǒɀǹÆǟ ʔşÆȞǟ ɉÀÊǫqǟ ÙÕǫŸÀ øÆÔŧõ ÛÀǩǟɀǫŋ ÕÒÎǟş ÛȳÆơ Ȗøǫǟ ğÀǫǟɀĿΣǟ :ĞĿǒÀŧÎǟ ÀÒÀŋǗ Ž ·ǥǨǯõ ÆĞÊţǟ ÕŋÀȞŸǒ ĞÀȜǟ ÆǫǟøɟÀş Û (*Sylvilagus* spp. ǯşÀȞĿǟ ţǟɀǫǗ) ĞÀȜǟ ÆǫǟøɟǟȖĿ ɉÀÊǫqǟ ʔşÆȞǒ ɉǟÀǟɀş Û(*Castor Canadensis* ɃÆÀÒǟ ȃÆÀÕǟ) øɀŧÊǟ Û(*Lepus Californicus*) hares

[illegible] (*Microtus* spp. [illegible]) [illegible] (*Ondatra zibethicus*) [illegible] (*D. andersoni* [illegible] *Dermacentor variabilis* [illegible] *palaeartica* [illegible] (*Amblyomma americanum* [illegible] *L. variabilis* [illegible] *L. variabilis* *Lepus europaeus* [illegible] *Ixodes* spp, [illegible] (*Haemoaphysalis* spp., [illegible]

[illegible] (CDC, 1982) [illegible] (*Sanguinus* [illegible] (*nigricollis* [illegible]

.(Nayar *et al.*, 1979)

.(Snyder, 1980; Sato *et al.*, 1990)

.(Viljanen *et al.*, 1983) socicated

.IgG IgA IgM

.(Syrjala *et al.*, 1986)

*Brucella*

·ōƺȮÎöä Ȯō *Brucella* *ĞĬĒèʂƎöä* ÆȒǪÊŋ ȐÀȶä ŌÔŋ îÀÔǪŋä ğäøÀǪǹɍÀæ ʂǗ ÆĢÊȶä ŌŋÀĦöä åäÀÀǪèÀæ ɃƎǪÅȶä ğÀĢǪqä ʔŸʒ ȯƺÔΣä ȴǪÀ ˙ÿÀÀȡɉä Ž ·ĞĐȤƺöʂƘÊöä

ÿÆÅǪÊǩ ȷǗ Æƶ ÛƎǪÅȶä Ž ȷƺŸȶĦÀ ȸÀØöä îÀÅìɉä ÆĒÔÀ Æȩ ɃØöä øÀÛǪǹŸö ĞDzĒǪʂ ·ĞæƺŸÛȶä ȷÀŋɉä ğäöäÀDZǗ ŌŸǪq ɄøǪöä ĞĦĐDZÀȶä ğäƎǪÅȶä Ž ÙŌƺ ÆĢÊȶä ŌŋÀĦöä åäÀÀǪèä ȧÀù

(ĞĒÔÅì) ĞÀåÀƺ ĞÆÆÔƠ ğäöäÀDZǗ ÿÆÅǪÊł ˙ȷÀÊǪqä Ž ôÀȶä ȸŋ ĞÀÀȩƺŸö ˙ĞĦƺÀÖȶä ÛĞÀĒĢöä ŌÀÆĢǩʂ ÛŌŋäƺĦöä ĞĦƺÀÖŋʂ ÛʔʂÆĦöä øÆÔŋ îÀÖǪǗ ˙ĞŋÀĦöä ğäöäÀDZqä ȸȶȒǪǩ ·ĞŋÀʒʂ åÀƠɍä Ž ·ĘĒŌĦǪöä ĞĢĦȍʂ ĞÀŸÖŋ ÛĝƘǹɉä äÆʒ Àŋ ÛĆØŁ ĞĦƺÀÖȶä ğäöäÀDZǗ ·ĞŋÀĦöä ƵĒŌǩʂ ĞĦƺÀÖȶ ğüÎÀŋ ƘÊèüǩ ÛĞŋÀŁ ĞĒĦȍ ĞŸÖÎŋ ĞĘƺøɍƺǪöä ƘǪÀō ǪĒǵ ÛĘäÀÊöä ɄøǪĒƺƺÊöä ·ĆØŁ ĞĦƺÀÖȶä ğÀüÀÎÀæ ÿÀĒŌŸö ğÀǪäƺĒΣÀæ ĞǪƺüƺȶä ĘüÀÀȶä Ž ĞĘƺøɍƺǪöä

ƘƠ ĞĒÀȚȶä ğÀʒƺȶÖä ʂǗ ğÀĦȶDzǪöäʂ åäÀƺɉä ʒĒÀǪ ȸŋ ÿÀŁ ɄøÀĒÔƠ öäÀDZǗ ȷƺȮǪÀ Ž ĘŌɉä ȴèÀΣä ÒŌÀöä ʔÂĦł ˙ĘæÀÊöä ɄøǪĒƺƺÊöä åÀƠɍä Ž ·ĞÀŁƺŋ ĞĒǵ ğÀǵÀŌŸæ øÀÛǪǹɍä ȸŁƺŋ ȡƺÀŌö ÆDZƺÀ ˙ǵÆĦǪȶä ğÀɍƺöä Ž ·ÆĒǵƺöä ȓÀÎÀöä äØŁ Ƃǘ ĞÀÀÎĢöä ĞȓäÀȶä ȶƺȩʂ ŌĒŸŌǩ Ž ȼǪĒöÀĦƺ ƘĢǪǗ Æȩʂ (Burke, 1977) ÆÀÆÎöä øÀÛǪǹɍä ƘƠ ğÀʒƺȶDzȶŸö ğäöäÀDZǗ ƵöüǪǩ ·(Rohrbach, 1988) ɄǵÀŌǪöä ɃÆ8öä ŌȮÎöä 8ÀĦȓǗʂ ɄÀĒǪöä ŌȮÎöä ğäåäÀŌöÀæ øÀÎǪǵɍä ÆÀDZǪö ȸÔȚ ȃÀĢöʂ ğäÀÎΣä ğäåÀÀÀŋ ÿäÆÅǪèä ȸŋ ʔÀǹǗ ĞÆÆÔƠ öÀÀǪǗ ğäàÀÀȩ ÿäÆÅǪèäʂ ÛȴÊƨä ȸŋ ğäåäÀŌŸö ĞÀøƺÀöä Ğöäàqäʂ ÛʔÀǹɉä ğÀĒŸÔÀȶä ğÀȡÆöʂ ɄøǪöä ĘüÀÀȶä Ž žÀĦȶä ƘȡöÀȶä ōŸȚǪèä ÆÀθʂ ÛÀȚÅŸè ʂǗ ĞÀƎöä ğÀǵäƺĒΣä ʒŋ ŌŋÀĦǪöä ĘüÀÀȶä Ž ÿÀǩ ŌȮÎæ ɃƎöä ȷäƺĒΣä ȴΣ ǸĢüʂ *ÛĞÀøɍƺǪöä ĞŸÊĒÊǪÀÀöÀæ* ǫƺŸǩ åƺDZƺæ ŌÎÀ ·ğÀǵäƺĒΣÀæ ĞǪƺüƺȶä

öÀÛʒǗʂ ÀȶȢöä ʂǗ æäæøqÀæ åäÀŌöä ğäÆĒĢŋ ĘĒĢÛǩ ÿÀÀȡɉä Ž ʔʂÆĦöä ĞĦƺÀÖŋ ÆŸÛǪǩ ȯÀǵ Ž (tetracyclines ƘŸȮĒèäÀǪǪöäʂ Ûstreptomycin ƘÊĒŋƺǪæÀǪÊöä) ĞÀƺĒΣä ğäåÀȒȶä ·ĞĒìÀƺ ȶƺȩʂ

## ƯøƜƐƥøǅǁƐ


Akerman, M.B., J.A. Embil. Antibodies to *Francisella tularensis* in the snowshoe hare (*Lepus americanus struthopus*) populations of Nova Scotia and Prince Edward Island and in the moose (*Alces alces americana* Clinton) population of Nova Scotia. *Can J Microbiol* 28:403–405, 1982.

Arata, A., H. Chamsa, A. Farhang-Azad, O. Mescerjakova, V. Neronov, S. Saidi. First detection of tularaemia in domestic and wild mammals in Iran. *Bull World Health Organ* 49:597–603, 1973.

Baldwin, C.J., R.J. Panciera, R.J. Morton, *et al.* Acute tularemia in three domestic cats. *J Am Vet Med Assoc* 199:1602–1605, 1991.

Bell, J.F., J.R. Reilly. Tularemia. *In:* Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals.* 2nd ed. Ames: Iowa State University Press; 1981.

Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Boyce, J.M. *Francisella tularensis* (Tularemia). *In:* Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases.* 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Burke, D.S. Immunization against tularemia: Analysis of the effectiveness of live *Francisella tularensis* vaccine in prevention of laboratory-acquired tularemia. *J Infect Dis* 135:55–60, 1977.

Capellan, J., I.W. Fong. Tularemia from a cat bite: Case report and review of feline-associated tularemia. *Clin Infect Dis* 16:472–475, 1993.

Frank, F.W., W.A. Meinershagen. Tularemia epizootic in sheep. *Vet Med* 56:374–378, 1961.

Gelman, A.C. Tularemia. *In:* May, J.M., ed. *Studies in Disease Ecology.* New York: Hafner; 1961.

Hornick, R.B. Tularemia. *In:* Hoeprich, P.D., ed. *Infectious Diseases.* Hagerstown: Harper & Row; 1972.

Marsh, H. *Newsom's Sheep Diseases.* 2nd ed. Baltimore: Williams & Wilkins; 1958.

McKeever, S., J.H. Schubert, M.D. Moody, *et al.* Natural ocurrence of tularemia in marsupials, carnivores, lagomorphs, and large rodents in southwestern Georgia and northwestern Florida. *J Infect Dis* 103:120–126, 1958.

Meyer, K.F. *Pasteurella* and *Francisella. In:* Dubos, R.J., J.G. Hirsch, eds. *Bacterial and Mycotic Infections of Man.* 4th ed. Philadelphia: Lippincott; 1965.

Mörner, T., G. Sandström, R. Mattsson, P.O. Nilsson. Infections with *Francisella tularensis* biovar *palaearctica* in hares (*Lepus timidus, Lepus europaeus*) from Sweden. *J Wildl Dis* 24:422–433, 1988.

Nayar, G.P., G.J. Crawshaw, J.L. Neufeld. Tularemia in a group of nonhuman primates. *J Am Vet Med Assoc* 175:962–963, 1979.

Olsen, P.F. Tularemia. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man.* 6th ed. Springfield: Thomas; 1975.

Olsufjev, N.G., I.S. Meshcheryakova. Subspecific taxonomy of *Francisella tularensis*, McCoy and Chapin, 1912. *Int J Syst Bacteriol* 33:872–874, 1983.

Pavlosky, E.N. *Natural Nidality of Transmissible Diseases.* Urbana: University of Illinois Press; 1966.

Reilly, J.R. Tularemia. *In:* Davis, J.W., L. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals.* Ames: Iowa State University Press; 1970.

Rohrbach, B.W. Tularemia. *J Am Vet Med Assoc* 193:428–432, 1988.

Sandström, G., A. Sjöstedt, M. Forsman, *et al.* Characterization and classification of strains of *Francisella tularensis* isolated in the central Asian focus of the Soviet Union and in Japan. *J Clin Microbiol* 30:172–175, 1992.

Sato, T., H. Fujita, Y. Ohara, M. Homma. Microagglutination test for early and specific serodiagnosis of tularemia. *J Clin Microbiol* 28:2372–2374, 1990.

Scheel, O., T. Hoel, T. Sandvik, B.P. Berdal. Susceptibility pattern of Scandinavian *Francisella tularensis* isolates with regard to oral and parenteral antimicrobial agents. *APMIS* 101:33–36, 1993.

Schmid, G.P., A.N. Kornblatt, C.A. Connors, *et al.* Clinically mild tularemia associated with tick-borne *Francisella tularensis*. *J Infect Dis* 148:63–67, 1983.

Snyder, M.J. Immune response to *Francisella*. *In*: Rose, H.R., H. Friedman, eds. *Manual of Clinical Immunology*. 2nd ed. Washington, D.C.: American Society for Microbiology; 1980.

Syrjälä, H., P. Koskela, T. Ripatti, *et al.* Agglutination and ELISA methods in the diagnosis of tularemia in different clinical forms and severities of the disease. *J Infect Dis* 153:142–145, 1986.

Taylor, J.P., G.R. Istre, T.C. McChesney, *et al.* Epidemiologic characteristics of human tularemia in the southwest-central states, 1981–1987. *Am J Epidemiol* 133:1032–1038, 1991.

Thorpe, B.D., R.W. Sidwell, D.E. Johnson, K.L. Smart, D.D. Parker. Tularemia in the wildlife and livestock of the Great Salt Lake Desert Region, 1951 through 1964. *Am J Trop Med Hyg* 14:622–637, 1965.

Tiggert, W.D. Soviet viable *Pasteurella tularensis* vaccines. A review of selected articles. *Bacteriol Rev* 26:354–373, 1962.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Tularemia associated with domestic cats—Georgia, New Mexico. *MMWR Morb Mortal Wkly Rep* 31:39–41, 1982.

Viljanen, M.K., T. Nurmi, A. Salminen. Enzyme-linked immunosorbent assay (ELISA) with bacterial sonicate antigen for IgM, IgA, and IgG antibodies to *Francisella tularensis*: Comparison with bacterial agglutination test and ELISA with lipopolysaccharide antigen. *J Infect Dis* 148:715–720, 1983.

Woodward, T.E. Tularemia. *In*: Beeson, P.B., W. McDermott, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.

Zidon, J. Tularemia. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

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## ZOONOTIC TUBERCULOSIS ϸơƬǅǁƐ Ĭøǳ ƝǰƟǁƐ üƨǁƐ

ƒĭƜƝǁƝƗƨǉ Ǌƈ ƒĭƜƝǁƝǰϸƗǀƑ ƖǴƘǅǁƐ ϸĭƷ ÛĬƨƻƗǁƐ üƨǁƐ **A16 ICD-10**

ǌϸƢƪƈ ƀƑƮƳƈ üƨ **A18**

**ICD-10 A16 respiratory tuberculosis, not confirmed bacteriologically or histologically; A18 tuberculosis of other organs**

*Mycobacterium* ǦƔÊöă ǥÄÛÁǭţă ·ƟƗ ğÄƗÆǯöă ŌÊö ǴƏƓÊöă ŌŋăζȞöă ·ğÄƏƓÊöă ŌÊöă ŌŋÅʒ Û*M. bovis* ǦÃÖǴöă ǥÄÛÁǭţăş ÛɃÀÎǴöă ŌÊŸö ƟÊƏàÀöă ÆǴÊöă tuberculosis ·ǴÁǿăÆţă ÄƏÖÁÄζÛ Ž ÄÁÎǝ ȉŸè ÆǴÊǩ ƟøφöăÛ*M. africanum* ǦƏÖÁζƒă ǥÄÛÁǭţăş ÛɃÀÖǴöă ǦÁƎÓȞöă ǥÄÛÁǭţăş ǦÁÖǴöă ǦƔÊöă ǥÄÛÁǭţăş ǦƔÊöă ǥÄÛÁǭŧŸö ƟøφöăÕŸǩ ƙǝ ÄÁăÂŋ Ƙǹƒă ţζÄŸö

[illegible] M. microti
[illegible]

[illegible] M. bovis [illegible]

[illegible]

.(Casal and Linares, 1985; Humble *et al.*, 1977) [illegible] APIZIM
[illegible] DNA.

[illegible] DNA [illegible]
.(Collins and De Lisle, 1985; Shoemaker *et al.*, 1986) *M. bovis* [illegible]

[illegible]
.(Grange and Yates, 1989)

[illegible]

*M. bovis* [illegible]

[illegible] 5021 [illegible] 1979 [illegible] 1977

[illegible] 53 [illegible] (%1.25) [illegible] 63 [illegible]

(%57.14) 36 [illegible] (%42.85) 27 [illegible] 10 [illegible]

[illegible] (Collins *et al.,* [illegible] (%8.2) [illegible] (%23.8) [illegible]

[illegible] 1981) [illegible]

[illegible] 1960 [illegible] 30 [illegible]

[illegible] %1.20 [illegible] 201 [illegible] 1987 [illegible] 1977 [illegible]

[illegible] (Yates and Grange, 1988) [illegible]

[illegible] 1935 [illegible] %40 [illegible]

[illegible] 52 [illegible] (Yates and Grange, 1988) [illegible]

[illegible] 15 – 10 [illegible] 1983 [illegible] 1979 [illegible]

[illegible] %88 [illegible] 61 [illegible]

(Burjanova and [illegible] %71 [illegible] %17 [illegible]

[illegible] 47 [illegible] Nagyova, 1985)

1957 – [illegible] (Kubin *et al.,* 1985) 1983 – 1981 [illegible]

[illegible] %45 [illegible] 1953

[illegible] %20 [illegible]

[illegible] %0.1 [illegible] 1980 [illegible]

125 [illegible] .(Good and Snider, 1980)

%80 [illegible] .(Schonfeld, 1982) 1975 – 1972 [illegible]

[illegible] 20 [illegible]

[illegible]

1945 [illegible] %30 [illegible] %5 [illegible]

.(Collins and Grange, 1983) [illegible] 5 [illegible]

[illegible]

(Fernandez Slalazar [illegible] (%4.45) 38 [illegible] 853 [illegible]

7195 [illegible] .*et al.*, 1983)

[illegible] .1981 [illegible] 1978 [illegible]

(Argentina, Comision Nacional [illegible] (%1.1) 82 [illegible]

.de Zoonosis, 1982)

[illegible]

%0.1 … 1969 … 4.5 … %0.06 … 33.5 … 1989 … 143 … (%0.0004) …

*Mycobacterium africanum* … (Castets *et al.*, 1969) 1969 … 1980 … Thorel … *Corcopithexus* … (Berggren, 1981) …

.(Pritchard, 1988) [illegible]

[illegible] %50 [illegible]

[illegible] 127 [illegible] 1952 [illegible] 1963، 1959 [illegible] %58 [illegible]

[illegible]

[illegible] .(Griffith, 1937) [illegible]

[illegible]

[illegible] %8 [illegible] 85 [illegible] 55 [illegible]

[illegible]

[illegible]

(ethambutol [illegible] rifampicin [illegible] isuniazid [illegible])

[illegible]

[illegible] Pearl [illegible] %5 [illegible] %2-%1 [illegible]

[illegible] M. avium [illegible]

[illegible] .(de Kantor *et al.*, 1979) [illegible]

[illegible] 1924 [illegible] %0.67 [illegible] 1989 [illegible] %15.2 [illegible]

[illegible] .(Lesslie *et al.*, 1968) %90 [illegible] %80 [illegible]

[illegible]

[illegible] (Theon, 1992) [illegible]

[illegible] (Theon, 1992) [illegible]

[illegible] *Rodococcus* [illegible]

[illegible] 597 [illegible] (reactors) [illegible] (%18) 108 [illegible] (Davidson *et al.*, 1981) [illegible] 8 [illegible] 70 [illegible] (%61) 43 [illegible] (*Trichosurus vulpecula*) [illegible]

[illegible] %81.6 [illegible] %11 [illegible]
.(Cordes *et al.*, 1981) .%99.6

[illegible]

[illegible] 208 [illegible] %30 [illegible]
(typed) [illegible]
[illegible] .(Francis, 1958) [illegible] 241 [illegible] 13
[illegible]

[illegible]

[illegible] %75 [illegible]
[illegible] 8 [illegible]

(Liu *et al.*, 1980)

%90

.(Isaac *et al.*, 1983)

P (INPPAZ) (PAN) I.N. de 150 10

57 1986 1974 (Kantor

6 .(*Trichosurus vulpecula*)

%58 %13 %2

[illegible] (De Lisle *et al.*, 1990) [illegible]

[illegible] %70 [illegible]

[illegible] *Cercopithexus* [illegible]

[illegible] (Thorel, 1980) [illegible]

[illegible] cervids [illegible]

(*Trichosurus vulpecula*)

(*Cervus elaphus*)

19 26 106

(Stuart *et al.*, 1988) %80 %61.3

reactors

1986

51 47 (*Dama dama*)

(Rbinson *et al.*, 1989)

10 1991

(Essey *et al.*, 1991)

(*Trichosurus vulpecula*)

(Uper [illegible] DNA [illegible] Hut) [illegible] .(Collins *et al.*, 1988)

[illegible] (*Meles meles*) badgers [illegible] .(Wilesmith, 1983)

[illegible] 250000 [illegible] 15000 [illegible] .(Cheeseman *et al.*, 1989) [illegible] %3.9 [illegible] (Wilesmithe *et al.*, 1986) [illegible] (McAleer, [illegible] .1990) [illegible] .(Grange and Collins, 1987) [illegible]

(*Lepus europapaeus*) [illegible] 4 [illegible] 1983 [illegible] 1982 [illegible]

[illegible] .(de Kantor *et al.*, 1984) [illegible] .(Veen *et al.*, 1991) [illegible] (*Syncerus* [illegible] (*Tragelaphus strepsiceros*) [illegible] Kudu [illegible] *caffer*) (Pastorest *et al.*, [illegible] (*Cephalophus grimmia*) duiker [illegible] .1988)

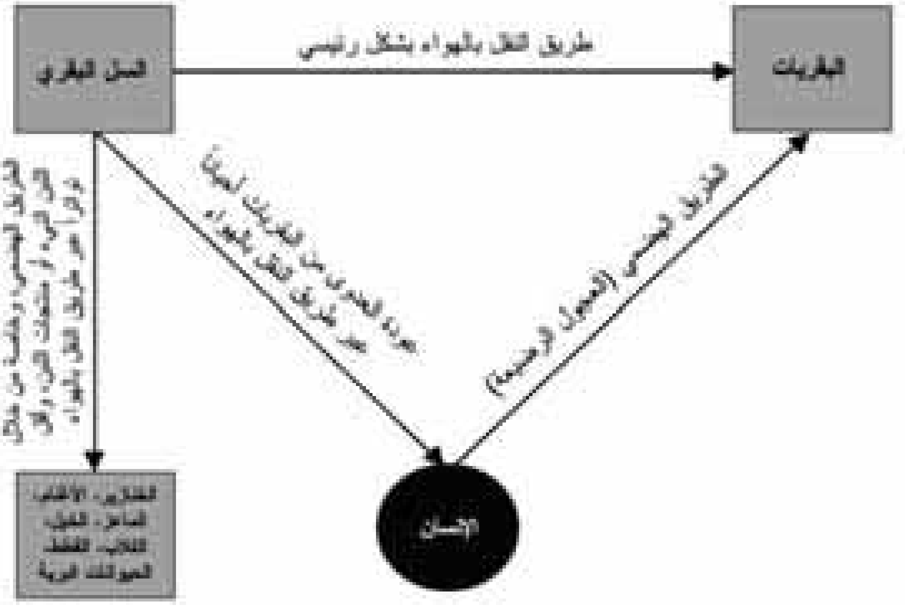
[illegible] :(20 [illegible]

[illegible]

[illegible]

[illegible]

·ɹÅÊφqåş ǴÌÀŧŸö ʔşÆĦöă óÆÔɳ ÙÛÕöă ɹζÓǨ Æç ÛĦφÅġĺ ·ƟèÅèĺ ŌÓÎă ɃζŧÅöă ĘÅÙÛöă
ȯÅŌÒφɍă äÀù (ǴŸÊöă ģÀÛÀŌţă) ŌÊöă :20 ŌÓÎöă




ÀŁâăÆĦŌèă ÆĠÊă ÛÀèɉă Ž ǴÀƎöă ğÅφăζΣă ƙă ȡɳ Û Ì Åǹ ŌÓÎă ǴŧƬɳ ÈĦφÅÊÀöă ƎŌĦǨ
·àÅÎÀŌèɍă ĘÀÙù ȡȝ ɹÅÊφqă ȡɳ ʔşÆĦöă ÙÕŌŸǨ ƟƬζ *ÜǴÀÖǴöă ģÀÛÀŌţăş ǴŸÊöă ģÀÛÀŌŧŸö*
·ɹÅÊφqă ʔŸȝ ĦĦƕò ĦÀÛǹ ǴözŸÊţă ğÅɳÆÕţă ŌÓÎǨ

ğÅφăζĦġ ƙă ŌɳÅĦöă ȯζǹå åÀǷzɳş ·ǴÀƎöă ğÅφăζĦƕŸö ʔşÆĦöă óÆÔɳ ƟŁ ǴǱzăÆöă ǴÌÀţă
ʔŸȝ ĦÀÛǹ ŌÓÎÀş ÅƬÀĦă ÀÎŌÀÀ ɹĺ ȝĦÛŌÊÀ ȼφüζ ʔȝÀɳ Ž ǴÌÀţă ōøÅÎǨ ǨφÅõ ǴÀÀă
ÀĦφÅÛÀÀă Ž (*Meles meles*) ÀəăÀȣöăş ŌÀɉă Ž ǨăÀǭ ăØŁş ·ɹÅÊφqă ʔŸȝş ǴǱzăÆöă ğÅφăζΣă
·ăÆÀŸÀăζĦφ Ž (*Tricjosurus vupecula*) ȳζÔăşɉăş ʔŧŢĦöă

øåÅφ ɹÅÊφĺ Ƃĺ ɹÅÊφĺ ȡɳ ƟøφăζΣă ŌÊöă ȯÅŌÒφă ɹĺ ˙ô Åţă ğÅĦəÀăş Ž ğÅφăζΣă øşå
·ƟøφăζĦġ óÆÔɳ ʔŸȝ ʔşÆĦöă ÆŧŌĦǨ·ǫşÆΣă

*ǴŸÊöă ģÀÛÀŌţă* ȡȝ ǴƤÅÀöă ǴÀÎǴöă ʔşÆĦöă (ĘÀÀÀǨ) ÂĦĦɋ ȡÒζ ɍ ȼφĺ Åɳ ˙ÒĦÅÎŌöă
åÆŢ ÒĦÅÎǨ Ƃĺ ȯζòζöă ȡÒζ ȼφüζ (ĦȝÅĦÌş ĦÀÀÀè) *ǴÀÖǴöă ģÀÛÀŌţă* ȡȝ ȴǱZÀÀöăş
ζŧÀǨ *ǴÀÖǴöă ģÀÛÀŌţă* ɹĺ ǴŢġŸɳ Æƶ ÛȯÅŎöă ăØŁ Ž ·ÙÕζ ƟøǴÊöă ŌɳÅĦöă ÙĦŧÀǩş åăÀÀŌèÅă

[illegible] Lowenteïn-Jensen culture [illegible] (PPD) [illegible] PPD [illegible] 0.1 [illegible] IU 10000 [illegible] 2000 [illegible] (Herd's [illegible] history)

[illegible] IU 2000 [illegible]

[illegible] BCG [illegible]

[illegible] 72 [illegible]

[illegible] anergic [illegible]

[illegible] PPD [illegible] ELISA [illegible] 101 [illegible] 53 [illegible] (Ritacco *et* [illegible] %94.1 [illegible] %73.6 [illegible] IgG [illegible] *al.*, 1990) [illegible] ELISA [illegible] 4 [illegible] 3 [illegible] ELISA [illegible] (Ritacco *et al.*, 1990) [illegible] %98 [illegible] %93 [illegible] %51 [illegible] %69 [illegible] (De Kantor *et al.*, 1991) [illegible]

[illegible] (Thoen *et al.*, 1981) [illegible]

[illegible]

[illegible] PPD [illegible] (Rothel *et al.*, 1990) [illegible] 24 [illegible] PPD [illegible] %93.6 [illegible] %76.8 [illegible] %98 [illegible] %96 [illegible] (Interpretation [illegible]) .(Wood *et al.*, 1991, Wood *et al.*, 1992) %95.2 [illegible] IgG [illegible] 19 [illegible] 9 [illegible] ELISA [illegible] .(Ritacco *et al.*, 1991) [illegible]

[illegible] BCG [illegible]

[illegible]

[illegible]

[illegible] BCG [illegible]

[illegible] (1991) [illegible] (1994) [illegible]

[illegible]

Argentina, Comisión Nacional de Zoonosis, Subcomisión de Tuberculosis Bovina. *La tuberculosis bovina en la República Argentina*. Buenos Aires: Centro Panamericano de Zoonosis; 1982.

Berggren, S.A.. Field experiment with BCG vaccine in Malawi. *Br Vet J* 137:88–96, 1981. Cited in: Pritchard, D.G. A century of bovine tuberculosis 1888–1988: Conquest and controversy. *J Comp Pathol* 99:357–399, 1988.

Burjanova, B., M. Nagyova. [Tuberculosis due to *Mycobacterium bovis* in the human population in Slovakia 1978–1983]. *Studia Pneumologica Phtiseologica Cechoslavaca* 45:342–346, 1985.

Casal, M., M.J. Linares. Enzymatic profile of *Mycobacterium tuberculosis*. *Eur J Clin Microbiol* 3:155–156, 1985.

Castets, M., N. Rist, H. Boisvert. Le varieté africaine du bacille tuberculeux. *Medicine de l'Afrique Noire* 16:321, 1969.

Centrángolo, A., L.S. de Marchesini, C. Isola, I.N. de Kantor, M. Di Lonardo. El *Mycobacterium bovis* como causa de tuberculosis humana. Actas, 13r. Congreso Argentino de Tisiología, Mar del Plata, 1973.

Cheeseman, C.L., J.W. Wilesmith, F.A. Stuart. Tuberculosis: The disease and its epidemiology in the badger, a review. *Epidemiol Infect* 103:113–125, 1989.

Collins, D.M., G.W. De Lisle. DNA restriction endonuclease analysis of *Mycobacterium bovis* and other members of the tuberculosis complex. *J Clin Microbiol* 21:562–564, 1985.

Collins, D.M., D.M. Gabric, G.W. De Lisle. Typing of *Mycobacterium bovis* isolates from cattle and other animals in the same locality. *N Z Vet J* 36:45–46, 1988.

Collins, C.H., J.M. Grange. The bovine tubercle bacillus. *J Appl Bacteriol* 55:13–29, 1983.

Collins, C.H., M.D. Yates, J.M. Grange. A study of bovine strains of *Mycobacterium tuberculosis* isolated from humans in South-East England, 1977–1979. *Tubercle* 62:113–116, 1981.

Cordes, D.O., J.A. Bullians, D.E. Lake, M.E. Carter. Observations on tuberculosis caused by *Mycobacterium bovis* in sheep. *N Z Vet J* 29:60–62, 1981.

Davidson, R.M., M.R. Alley, N.S. Beatson. Tuberculosis in a flock of sheep. *N Z Vet J* 29:1–2, 1981.

de Kantor, I.N., E. Alvarez, eds. *Current status of bovine tuberculosis in Latin America and the Caribbean*. Buenos Aires: Pan American Zoonoses Center; 1991. (Special Publication 10).

de Kantor, I.N., L. Barrera, V. Ritacco, I. Miceli. Utilidad del enzimoinmunoensayo en el diagnóstico de la tuberculosis. *Bol Oficina Sanit Panam* 110:461–470, 1991.

de Kantor, I.N., E. de la Vega, A. Bernardelli. Infección por *Mycobacterium bovis* en liebres en la provincia de Buenos Aires, Argentina. *Rev Med Vet* 65:268–279, 1984.

de Kantor, I.N., N. Marchevsky, I.W. Lesslie. Respuesta al PPD en pacientes tuberculosos afectados por *M. tuberculosis* y por *M. bovis*. *Medicina* 36:127–130, 1976.

de Kantor, I.N., J. Pereira, J. Miquet, R. Rovère. Pouvoir pathogène experimental de *Mycobacterium africanum* pour les bovins. *Bull Acad Vet Fr* 52:499–503, 1979.

de Kantor, I.N., V. Ritacco. Bovine tuberculosis in Latin America and the Caribbean: Current status, control and eradication programs. *Vet Microbiol* 40:5–14, 1994.

De Lisle, G.W., D.M. Collins, A.S. Loveday, *et al.* A report of tuberculosis in cats in New Zealand and the examination of strains of *Mycobacterium bovis* by DNA restriction endonuclease analysis. *N Z Vet J* 38:10–13, 1990.

Essey, M.A., A. Fanning, D.A. Saavi, J. Payeur. Bovine tuberculosis in *Cervidae*: human health concerns. *Proc Annu Meet U S Anim Health Assoc* 95:427–436, 1991.

Feldman, W.H. Tuberculosis. *In*: Hull, T.G., ed. *Diseases Transmitted from Animals to Man*. 5th ed. Springfield: Thomas; 1963.

Fernández Salazar, M., V. Gómez Pando, L. Domínguez Paredes. *Mycobacterium bovis* en la patología humana en el Perú. *Bol Inf Col Med Vet* 14:16–18, 1983.

Francis, J. *Tuberculosis in Animals and Man. A Study in Comparative Pathology*. London: Cassel; 1958.

Francis, J., C.L. Choi, A.J. Frost. The diagnosis of tuberculosis in cattle with special reference to bovine PPD tuberculin. *Aust Vet J* 49:246–251, 1973.

García Carrillo, C., B. Szyfres. La tuberculosis animal en las Américas y su transmisión al hombre. Roma: Organización de las Naciones Unidas para la Agricultura y la Alimentación; 1963.

Good, R.C., D.E. Snider, Jr. Isolation of nontuberculous mycobacteria in the United States, 1980. *J Infect Dis* 146:829–833, 1982.

Grange, J.M., C.H. Collins. Bovine tubercle bacilli and disease in animals and man. *Epidemiol Infect* 99:221–234, 1987.

Grange, J.M., M.D. Yates. Incidence and nature of human tuberculosis due to *Mycobacterium africanum* in South-East England: 1977–87. *Epidemiol Infect* 103:127–132, 1989.

Griffith, A.S. Bovine tuberculosis in man. *Tubercle* 18:528–543, 1937. Cited in: Collins, C.H., J.M. Grange. The bovine tubercle bacillus. *J Appl Bacteriol* 55:13–29, 1983.

Hawthorne, V.M., I.M. Lauder. Tuberculosis in man, dog and cat. *Am Rev Resp Dis* 85:858–869, 1962.

Horsburgh, C.R., U.G. Mason III, D.C. Farhi, M.D. Iseman. Disseminated infection with *Mycobacterium avium-intracellulare*. A report of 13 cases and review of the literature. *Medicine* 64:36–48, 1985.

Huitema, H. Development of a comparative test with equal concentrations of avian and bovine PPD tuberculin for cattle. *Tijdschr Diergeneeskd* 98:396–407, 1973.

Huitema, H. The eradication of bovine tuberculosis in cattle in the Netherlands and the significance of man as a source of infection in cattle. *Selected Papers of the Royal Netherlands Tuberculosis Association* 12:62–67, 1969. Cited in: Grange, J.M., C.H. Collins. Bovine tubercle bacilli and disease in animals and man. *Epidemiol Infect* 99:221–234, 1987.

Humble, M.W., A. King, I. Phillips. API ZYM: A simple rapid system for the detection of bacterial enzymes. *J Clin Pathol* 30:275–277, 1977.

Isaac, J., J. Whitehead, J.W. Adams, M.D. Barton, P. Coloe. An outbreak of *Mycobacterium bovis* infection in cats in an animal house. *Aust Vet J* 60:243–245, 1983.

Joint FAO/WHO Expert Committee on Zoonoses. *Joint FAO/WHO Expert Committee on Zoonoses. Third report*. Geneva: WHO; 1967. (Technical Report Series 378).

Karlson, A.G. Tuberculosis. *In*: Dunne, H.W., ed. *Diseases of Swine*. 3rd ed. Ames: Iowa State University Press; 1970.

Kleeberg, H.H. Tuberculosis and other mycobacterioses. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Konyha, L.D., J.P. Kreier. The significance of tuberculin tests in the horse. *Am Rev Resp Dis* 103:91–99, 1971.

Kubin, M., J. Stastna, M. Havelkova. [Classification of mycobacterial causal agents of tuberculosis and mycobacteriosis in the Czech Republic in 1981–1983]. *Studia Pneumologica Phtisiologica Cechoslovaca* 45:599–603, 1985.

Lesslie, I.W., K.J. Birn, P. Stuart, *et al*. Tuberculosis in the pig and the tuberculin test. *Vet Rec* 83:647–651, 1968.

Liu, S., I. Weitzman, G.G. Johnson. Canine tuberculosis. *J Am Vet Med Assoc* 177:164–167, 1980.

Magnus, K. Epidemiological basis of tuberculosis eradication. 3. Risk of pulmonary tuberculosis after human and bovine infection. *Bull World Health Organ* 35:483–508, 1966.

Magnus, K. Epidemiological basis of tuberculosis eradication. 5. Frequency of pulmonary calcifications after human and bovine infection. *Bull World Health Organ* 36:703–718, 1967.

Matthias, D. Vergleichende Pathologie der Tuberkulose der Tiere. *In*: Meissner, G., A. Schmiedel, eds. *Mykobakterien und Mykobakterielle Krankheiten*. Teil VII. Jena: Fischer; 1970.

McAleer, P.D. The relationship between badger density and the incidence of bovine tuberculosis in County Galway. *Ir Vet J* 43:77–80, 1990.

Myers, J.A., J.H. Steele. *Bovine Tuberculosis Control in Man and Animals*. St. Louis: Green; 1969.

Pan American Health Organization (PAHO). *First International Seminar on Bovine Tuberculosis for the Americas, Santiago, Chile, 21–25 September 1970*. Washington, D.C.: PAHO; 1972. (Scientific Publication 258).

Pastoret, P.P., E.T. Thiry, B. Brochier, *et al*. Maladies de faune sauvage transmissibles aux animaux domestiques. *Rev Sci Tech Off Int Epiz* 7:661–704, 1988.

Patterson, A.B., J.T. Stamp, J.N. Ritchie. Tuberculosis. *In*: Stableforth, A.W., I.A. Galloway, eds. *Infectious Diseases of Animals*. London: Butterworths; 1959.

Pritchard, D.G. A century of bovine tuberculosis 1888–1988: Conquest and controversy. *J Comp Pathol* 99:357–399, 1988.

Ritacco, V., B. López, L. Barrera, *et al*. Further evaluation of an indirect enzyme-linked immunosorbent assay for the diagnosis of bovine tuberculosis. *Zentralbl Veterinarmed [B]* 37:19–27, 1990.

Ritacco, V., B. López, I.N. de Kantor, *et al*. Reciprocal cellular and humoral immune responses in bovine tuberculosis. *Res Vet Sci* 50:365–367, 1991.

Robinson, R.C., P.H. Phillips, G. Stevens, P.A. Storm. An outbreak of *Mycobacterium bovis* in fallow deer (*Dama dama*). *Aust Vet J* 66:195–197, 1989.

Roswurm, J.D., L.D. Konyha. The comparative-cervical tuberculin test as an aid to diagnosing bovine tuberculosis. *Proc Annu Meet U S Anim Health Assoc* 77:368–389, 1973.

Rothel, J.S., S.L. Jones, L.A. Corner, *et al.* A sandwich enzyme immunoassay for bovine interferon-gamma and its use for the detection of tuberculosis in cattle. *Aust Vet J* 67:134–137, 1990.

Ruch, T.C. *Diseases of Laboratory Primates.* Philadelphia: Saunders; 1959.

Schliesser, T. Epidemiologie der Tuberkulose der Tiere. *In*: Meissner, G., A. Schmiedel, eds. *Mykobakterien und Mykobakterielle Krankheiten.* Teil VII. Jena: Fischer; 1970.

Schmiedel, A. Erkrankungen der Menschen durch *Mycobacterium bovis. In*: Meissner, G., A. Schmiedel, eds. *Mykobakterien und Mykobakterielle Krankheiten.* Teil VII. Jena: Fischer, 1970.

Schonfeld, J.K. Human-to-human spread of infection by *M. bovis. Tubercle* 63:143–144, 1982.

Shoemaker, S.A., J.H. Fisher, W.D. Jones, C.H. Scoggin. Restriction fragment analysis of chromosomal DNA defines different strains of *Mycobacterium tuberculosis. Am Rev Respir Dis* 134:210–213, 1986.

Sjorgen, I., I. Sutherland. Studies of tuberculosis in man in relation to infection in cattle. *Tubercle* 56:127–133, 1974.

Stuart, F.A., P.A. Manser, F.G. McIntosh. Tuberculosis in imported red deer (*Cervus elaphus*). *Vet Rec* 122:508–511, 1988.

Thoen, C.O. Tuberculosis. *In*: Leman, A.D., B.E. Straw, W.L. Mengeling, S. D'Allaire, D.J. Taylor, eds. *Diseases of Swine.* 7th ed. Ames: Iowa State University; 1992.

Thoen, C.O., C. Malstrom, E.M. Himes, K. Mills. Use of enzyme-linked immunosorbent assay for detecting mycobacterial antigens in tissues of *Mycobacterium bovis*-infected cattle. *Am J Vet Res* 42:1814–1815, 1981.

Thorel, M.F. Isolation of *Mycobacterium africanum* from monkeys. *Tubercle* 61:101–104, 1980.

Veen, J., J.V. Kuyvenhoven, E.T.B. Dinkla, *et al.* [Tuberculosis in alpacas; a zoonosis as an imported disease]. *Nederlands Tijdschr Geneesk* 135:1127–1130, 1991.

Vestal, A.L. Procedures for the isolation of *Mycobacteria.* Atlanta: Centers for Disease Control and Prevention; 1969. (Public Health Publication 1995).

Wiessmann, J. Die Rindertuberkulose beim Menschen und ihre epidemiologische Bedeutung fur die Veterinarmedizin. *Schweiz Arch Tierheilkd* 102:467–471, 1960.

Wilesmith, J.W. Epidemiological features of bovine tuberculosis in cattle herds in Great Britain. *J Hyg* 90:159–176, 1983.

Wilesmith, J.W., P.E. Sayers, R. Bode, *et al.* Tuberculosis in East Sussex. II. Aspects of badger ecology and surveillance for tuberculosis in badger populations (1976–1984). *J Hyg* 97:11–26, 1986.

Winkler, W.G., N.B. Gale. Tuberculosis. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals.* Ames: Iowa State University Press; 1970.

Wood, P.R., L.A. Corner, J.S. Rothel, *et al.* Field comparison of the interferon-gamma assay and the intradermal tuberculin tests for the diagnosis of bovine tuberculosis. *Aust Vet J* 68:286–290, 1991.

Wood, P.R., L.A. Corner, J.S. Rothel, *et al.* A field evaluation of serological and cellular diagnostic tests for bovine tuberculosis. *Vet Microbiol* 31:71–79, 1992.

Yates, M.D., J.M. Grange. Incidence and nature of human tuberculosis due to bovine tubercle bacilli in South-East England: 1977–1987. *Epidemiol Infect* 101:225–229, 1988.

# الجـزء الثـانـي

# الفُطـارات

# ADIASPIROMYCOSIS

**ICD -10 B4 88**

adiaspirosis ... Haptomycosis ... .haplosporangiosis

(*Emmonsia* ...) ... *Chrysosporium parvum* var. *crescens* ... sperules ... saprophytic ... (adiaspores ... 700 – 200 ... 40 ...

... 11 ... (Englund and Hochholzer, 1993) ... 4 ... 23 ... (1989)

... (Leighton and Wobeser, 1987) ... 124 ... (*Mephitis mephitis*

[illegible] (spores [illegible]) Conidia [illegible] inoculum [illegible] .(Englund and Hochholzer, 1993) [illegible] Resection [illegible] .(Echeverria *et al.*, 1993) [illegible] Mycotic [illegible] 35 [illegible] 4 [illegible] 8 [illegible] .(Peres *et al.*, 1992) [illegible] .(Moraes *et al.*, 1989)

[illegible]

[illegible] 25 [illegible] 7 [illegible] (Al bassam *et al.*, 1986) [illegible]

[illegible] (Leighton and Webeser, 1978) [illegible] (1982 [illegible]) [illegible] Predator-prey [illegible] (*Musltelid nivalis*) *Mustelid* [illegible]

[illegible] (Leighton and [illegible] %2 [illegible] .Woboser, 1978) (Englund and Hochholzer 1993) [illegible]

[illegible]


Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Albassam, M.A., R. Bhatnagar, L.E. Lillie, L. Roy. Adiaspiromycosis in striped skunks in Alberta, Canada. *J Wildl Dis* 22:13–18, 1986.

Cueva, J.A., M.D. Little. *Emmonsia crescens* infection (adiaspiromycosis) in man in Honduras. *Am J Trop Med Hyg* 20:282–287, 1971.

Echevarria, E., E.L. Cano, A. Restrepo. Disseminated adiaspiromycosis in a patient with AIDS. *J Med Vet Mycol* 31:91–97, 1993.

England, D.M., L. Hochholzer. Adiaspiromycosis: An unusual fungal infection of the lung. Report of 11 cases. *Am J Surg Pathol* 17:876–886, 1993.

Jellison, W.L. Adiaspiromycosis. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Leighton, F.A., G. Wobeser. The prevalence of adiaspiromycosis in three sympatric species of ground squirrels. *J Wildl Dis* 14:362–365, 1978.

Mason, R.W., M. Gauhwin. Adiaspiromycosis in South Australian hairy-nosed wombats (*Lasiorhinus latifrons*). *J Wildl Dis* 18:3–8, 1982.

Moraes, N.A., M.C. de Almeida, A.N. Raick. Caso fatal de adiaspiromicose pulmonar humana. *Rev Inst Med Trop Sao Paulo* 31:188–194, 1989.

Peres, L.C., F. Figueiredo, M. Peinado, F.A. Soares. Fulminant disseminated pulmonary adiaspiromycosis in humans. *Am J Trop Med Hyg* 46:146–150, 1992.

Salfelder, K. New and uncommon opportunistic fungal infections. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses*. Washington, D.C.: PAHO; 1975. (Scientific Publication 304).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# ASPERGILLOSIS

**B44.1** **ICD-10 B44.0** **B44.8** **B44.7**

**ICD-10 B44.0 invasive pulmomary aspergillosis; B44.1 other pulmomary aspergillosis; B44.7 disseminated aspergillosis; B44.8 other forms of aspergillosis**

Bronchomycosis Pneumonomycosis

*Aspergillus fumigatus* *A. nidulans* *A. flarus* *A. terrus* *A. niger*

*A. Parasiticus* B1

[illegible]

[illegible] [1] [illegible] 2,000 [illegible] %1.2 [illegible]
.(Gonzales-Mendoza, 1970) [illegible]

[illegible]

[illegible]

33 [illegible] %91 [illegible] 1991 [illegible] 1989 [illegible] 28 [illegible]

(1) [illegible]

14 ... 15 ...

.(Lortholary *et al.*, 1993)

(Bennett, ... .1990)

.(Bennett, 1990)

E ...

.(Bennett, 1990)

%33 ... Hyphae ...

.(Bhatnaga *et al.*, 1993) G ...

E ...

.(Green berger, 1986)

[illegible] .(Imbeault and Cormier, 1993) [illegible]

[illegible] (aspirgilloma [illegible]

[illegible] .(Karam and Griffin, 1986) [illegible] 32 [illegible] 5 [illegible] 14 [illegible] 32 [illegible]

[illegible] .(Wex *et al.*, 1993) [illegible] .(Bennett, 1990) [illegible]

[illegible] 11 [illegible]

.1988/7 1981/7

8

.(Opal *et al.*, 1986)

417

22 (%5.2) 22

7 17

.(Iwen *et al.*, 1993)

%75

.*Mucorales* %15 %10

Cotyledons

[illegible] .(Schmitt, 1981) [illegible] (Hattel *et al.*, [illegible] (*Ehrlichia ristici* [illegible] .1991)

[illegible] .1984 – 1980 [illegible] 12 [illegible] 12 [illegible] 11 [illegible] .(Day *et al.*, 1986) [illegible] 6 [illegible] .(Dallman *et al.*, 92) [illegible]

[illegible] .emanciation [illegible] Sacks [illegible] 3 – 1 [illegible] .(Chute and Richard, 1991) [illegible]

[illegible] (exospores [illegible] Conidia) [illegible]

[illegible] .(Chute and Richard, 1991) [illegible]

[illegible]

[illegible] .(Kurup, 1986) [illegible]

[illegible]

[illegible] (Iwen *et al.,* 1993) [illegible] Transplant [illegible]

[illegible]


Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Ajello, L., L.K. Georg, W. Kaplan, L. Kaufman. *Laboratory Manual for Medical Mycology*. Washington, D.C.: U.S. Government Printing Office; 1963. (Public Health Service Publication 994).

Bennett, J.E. *Aspergillus* species. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. Vol 2: *Principles and Practice of Infectious Disease*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Bhatnagar, P.K., B. Banerjee, P.V. Sarma. Serological findings in patients with allergic bronchopulmonary aspergillosis during remission. *J Infect* 27:33–37, 1993.

Chute, H.L., J.L. Richard. Fungal infections. *In*: Calnek, B.W., H.J. Barnes, C.W. Beard, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*. 9th ed. Ames: Iowa State University Press; 1991.

Dallman, M.J., T.L. Dew, L. Tobias, R. Doss. Disseminated aspergillosis in a dog with diskospondylitis and neurologic deficits. *J Am Vet Med Assoc* 200:511–513, 1992.

Day, M.J., W.J. Penhale, C.E. Eger, *et al*. Disseminated aspergillosis in dogs. *Aust Vet J* 63:55–59, 1986.

González-Mendoza, A. Opportunistic mycoses. *In*: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Gordon, M.A. Current status of serology for diagnosis and prognostic evaluation of opportunistic fungus infections. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses*. Washington, D.C.: PAHO; 1975. (Scientific Publication 304).

Greenberger, P.A. Aspergillosis: Clinical aspects. *Zbl Bakt Hyg A* 261:487–495, 1986.

Hattel, A.L., T.R. Drake, B.J. Anderholm, E.S. McAllister. Pulmonary aspergillosis associated with acute enteritis in a horse. *J Am Vet Med Assoc* 199:589–590, 1991.

Imbeault, B., Y. Cormier. Usefulness of inhaled high-dose corticosteroids in allergic bronchopulmonary aspergillosis. *Chest* 103:1614–1617, 1993.

Iwen, P.C., E.C. Reed, J.O. Armitage, *et al*. Nosocomial invasive aspergillosis in lymphoma patients treated with bone marrow or peripheral stem cell transplants. *Infect Control Hosp Epidemiol* 14:131–139, 1993.

Karam, G.H., F.M. Griffin, Jr. Invasive pulmonary aspergillosis in nonimmunocompromised, nonneutropenic hosts. *Rev Infect Dis* 8:357–363, 1986.
Kurup, V.P. Enzyme-linked immunosorbent assay in the detection of specific antibodies against *Aspergillus* in patient sera. *Zbl Bakt Hyg A* 261:509–516, 1986.
Lortholary, O., M.C. Meyohas, B. Dupont, *et al.* Invasive aspergillosis in patients with acquired immunodeficiency syndrome: Report of 33 cases. French Cooperative Study Group on Aspergillosis in AIDS. *Am J Med* 95:177–187, 1993.
Mishra, S.K., S. Falkenberg, N. Masihi. Efficacy of enzyme-linked immunosorbent assay in serodiagnosis of aspergillosis. *J Clin Microbiol* 17:708–710, 1983.
Opal, S.M., A.A. Asp, P.B. Cannady, Jr., *et al.* Efficacy of infection control measures during a nosocomial outbreak of disseminated aspergillosis associated with hospital construction. *J Infect Dis* 153:634–637, 1986.
Schmitt, J.A. Mycotic diseases. *In:* Ristic M., I. McIntyre, eds. *Diseases of Cattle in the Tropics.* The Hague: Martinus Nijhoff; 1981.
Utz, J.P. The systemic mycoses. *In:* Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine.* 16th ed. Philadelphia: Saunders; 1982.
Wex, P., E. Utta, W. Drozdz. Surgical treatment of pulmonary and pleuropulmonary *Aspergillus* disease. *Thorac Cardiovasc Surg* 41:64–70, 1993.
Winter, A.J. Mycotic abortion. *In:* Faulkner, L.C., ed. *Abortion Diseases of Livestock.* Springfield: Thomas; 1968.

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## BLASTOMYCOSIS ĬDŽŸþĞÏε þƑƯŽÏε

ăNjəþÏε ĬDŽŸþĞÏε þƑƯŽÏε **B40.1** ÜɑƑΘÏε ăNjəþÏε ĬDŽŸþĞÏε þƑƯŽÏε **ICD-10 B40.0** ĬDŽŸþĞÏε þƑƯŽÏε **B40.7** ÜăɑŧШÏε ăNjəþÏε ĬDŽŸþĞÏε þƑƯŽÏε **B40.3** ÜDžDžŘDžÏε ĬDŽŸþĞÏε þƑƯŽÏε DžDž njþɑɞ üƑlʅɞ **B40.8** ÜþƙƚĐDžÏε ăNjəþÏε

**ICD-10 B40.0 acate pulmomary blastomycosis; B40.1 chronic pulmomary blastomycosis; B40.3 cutaneous blastomycosis; B40.7 disseminated blastomycosis; B40.8 other forms of blastomycosis**

ŏäá ÛGilchrist ǨÊÀÒÀŸDZ ŏäá ÛБÀŧÎöä ƟÒÀÀŋĵä Ʉŧ3ƎÖä øÀÛÀöä ˸ğÀʐáäÀʈä ·ʐɖÀÒÈÌ

ŌÒÎöä ɄəÀĄ ÀÛʐ ɄĿş ÛBlastomyces dermatitidis ÆŸDzŸö ĞGΤŸʈä ĞÆŧʒƎöä ˸ğÀÆĞĜÊöä ĵÊɸ Ž Budding Ğŧ3ƎΩŋ ğƘŧÅõş ʈøäÀʈä Ž Mycelin ɃøʐÛʐɉä ŌÒÎöÀä ÆDZʐÀ ĞDZøÆä enriched ğÀ8ʈä ğÀɊɊÊʈä Ž ğƘŧÅõ ÀÛÀöä ÆDZʐÀ Àŧõ ·ĞÆĚÀʈä ğÀÆÆǯöä БÛ ÆŸÖÀ ɄøÀÛç ȐÆÜ ÿ °25 ĞDZøÆä ğÀɊɊÊʈä Ž ɃøʐÛʐɉä ŌÒÎöä ·ÿ °37 ğøäÀǵ ·ǨçʐÖä 3ŋ ɄøÀä

Microecossytem (1)

(Kaufman *et al.*, 1983)

precipitin

exoantigen

2, 12, 11, 1

autochthonous

(Klein *et al.*, 1986)

157

(1975 Selby) 1968 1885

0.7 0.1

0.44 0.61 1965 1960 100,000

100,000 0.43

100,000 0.48 1967 1960

4 Hyperendemic 1982 1973

(1) ecosystem

[illegible] 100,000 [illegible]

[illegible] 100,000 [illegible] 0.23 :1985-1976 [illegible] 100,000 [illegible] 6.8 [illegible] 5 [illegible] 82 [illegible] 3 [illegible] .(Lowry *et al.*, 1989) [illegible] :1979 [illegible] 120 [illegible] 38 [illegible] 20 [illegible] .(Bakerspigel *el at.*, 1986)

[illegible] (1986) [illegible] 48 [illegible] beaver [illegible] 5 [illegible] 9 [illegible] 4 [illegible] 4 [illegible] .(Armsrong *et al.*, 1987) [illegible] 20 [illegible] .(Klein *et al.*, 1986)

[illegible] 20 [illegible]

[illegible] 205 [illegible] 1990 [illegible] 1980 [illegible] 971 [illegible] 100,000 [illegible] 4 [illegible] 2 [illegible] 45 [illegible] 23 [illegible] .(Rudman *et al.*, 1992) [illegible] (*Eumetopias Jubata*) [illegible] .Ferret [illegible] (*Pamthera leo*) [illegible] 5,477 [illegible] 5 [illegible] .(Breider *et al.*, 1988) [illegible]

[illegible] 106 [illegible] 21 [illegible] .(Klein *et al.*, 1986) ([illegible] 43 [illegible]) [illegible] 6 [illegible] 10 [illegible] 5 [illegible] .(Myer *et al.*, 1993) [illegible] .(Chapman, 1990) [illegible]

[illegible]

(Chapman, 1990).

(Chapman, 1990).

4 6 15 7 6 %40 21 (Pappas *et al.*, 1992)

47 %72 (Legndre *et al.*, 1981) %85 200 1982 1980 (Archer *et al.*, 1987)

[illegible] .(Holt, 1990) nephrotoxicity

[illegible] Microecosystem [illegible]

[illegible]

[illegible]

[illegible] 37° [illegible] .(ambient [illegible] (37° [illegible]) [illegible] *Paracoccidioides* [illegible] - *brusiliensis* [illegible] .(Scalarone *et al.*, 1992) [illegible]

[illegible] 7 [illegible] 8 [illegible] 3 [illegible] histoplasmosis [illegible] (Lo and Notenboom, 1990) Coccidioidomycosis [illegible]

[illegible]


Ajello, L. Comparative ecology of respiratory mycotic disease agents. *Bact Rev* 31: 6–24, 1967.

Archer, J.R., D.O. Trainer, R.F. Schell. Epidemiologic study of canine blastomycosis in Wisconsin. *J Am Vet Med Assoc* 190:1292–1295, 1987.

Armstrong, C.W., S.R. Jenkins, L. Kaufman, *et al.* Common-source outbreak of blastomycosis in hunters and their dogs. *J Infect Dis* 155:568–570, 1987.

Bakerspigel, A., J.S. Kane, D. Schaus. Isolation of *Blastomyces dermatitidis* from an earthen floor in southwestern Ontario, Canada. *J Clin Microbiol* 24:890–891, 1986.

Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Breider, M.A., T.L. Walker, A.M. Legendre, R.T. VanEE. Blastomycosis in cats: Five cases (1979–1986). *J Am Vet Med Assoc* 193:570–572, 1988.

Chapman, S.W. *Blastomyces dermatitidis. In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases.* 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Drutz, D.J. The mycoses. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine.* 16th ed. Philadelphia: Saunders; 1982.

Holt, R.J. Progress in antimycotic chemotherapy, 1945–1980. *Infection* 8:5284–5287, 1980.

Kaplan, W. Epidemiology of the principal systemic mycoses of man and lower animals and the ecology of their agents. *J Am Vet Med Assoc* 163:1043–1047, 1973.

Kaufman, L. Current status of immunology for diagnosis and prognostic evaluation of blastomycosis, coccidioidomycosis, and paracoccidioidomycosis. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses.* Washington, D.C.: PAHO; 1975. (Scientific Publication 304).

Kaufman, L., P.G. Standard, R.J. Weeks, A.A. Padhye. Detection of two *Blastomyces dermatitidis* serotypes by exoantigen analysis. *J Clin Microbiol* 18:110–114, 1983.

Klein, B.S., J.M. Vergeront, J.P. Davis. Epidemiologic aspects of blastomycosis, the enigmatic systemic mycosis. *Semin Respir Infect* 1:29–39, 1986.

Legendre, A.M., M. Walker, N. Buyukmihci, R. Stevens. Canine blastomycoses: A review of 47 clinical cases. *J Am Vet Med Assoc* 178:1163–1168, 1981.

Lo, C.Y., R.H. Notenboom. A new enzyme immunoassay specific for blastomycosis. *Am Rev Resp Dis* 141:84–88, 1990.

Lowry, P.W., K.Y. Kelso, L.M. McFarland. Blastomycosis in Washington Parish, Louisiana, 1976–1985. *Am J Epidemiol* 130:151–159, 1989.

Menges, R.W. Blastomycosis in animals. *Vet Med* 55:45–54, 1960. Cited in: Selby, L.A. Blastomycosis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thpmas; 1975.

Meyer, K.C., E.J. McManus, D.G. Maki. Overwhelming pulmonary blastomycosis associated with the adult respiratory distress syndrome. *N Engl J Med* 329:1231–1236, 1993.

Pappas, P.G., J.C. Pottage, W.G. Powderly, *et al*. Blastomycosis in patients with acquired immunodeficiency syndrome. *Ann Intern Med* 116:847–853, 1992.

Rudmann, D.G., B.R. Coolman, C.M. Pérez, L.T. Glickman. Evaluation of risk factors for blastomycosis in dogs: 857 cases (1980–1990). *J Am Vet Med Assoc* 201:1754–1759, 1992.

Scalarone, G.M., A.M. Legendre, K.A. Clark, K. Pusatev. Evaluation of a commercial DNA probe assay for the identification of clinical isolates of *Blastomyces dermatitidis* from dogs. *J Med Vet Mycol* 30:43–49, 1992.

Selby, L.A. Blastomycosis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

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## CANDIDIASI ŀƑŢĭĞĎžǁƐ ƀƐơ

ŀƑŢĭĞĎžǁƐ ƀƐơ **B37.1** Ü ŀƑŢĭĞĎžǁƐ DžƳ !ШƑđǁƐ !ƻǁƐ ƒƑNJŧǁƐ **ICD-10 B37.0**

Ĭʒ ŀƑŢĭĞĎžǁƐ ƀƐơ **B37.3** ÜƥƑƻưǕƐNj ơŧШǁƐ Ĭʒ ŀƑŢĭĞĎžǁƐ ƀƐơ **B37.2** Ü ă NjəƥǁƐ

ÜnjƥƢƪǕƐ ƕĭŧ ƨƑđŧǁƐ ƕĭǁNjĜǁƐ ƱƷƐNjĎžǁƐ Ĭʒ ŀƑŢĭĞĎžǁƐ ƀƐơ **B37.4** Ü ƚ ƥƻǁƐNj üĜNJĎžǁƐ

DžƳ !ШƑđǁƐ ƸƑƸŀǁƐ ƒƑNJŧǁƐ **B37.6** Ü ŀƑŢĭĞĎžǁƐ DžƳ !ШƑđǁƐ ƑĩƑƟƨǁƐ ƒƑNJŧǁƐ **B37.5**

ŀƑŢĭĞĎžǁƐ DžƳ !ШƑđǁƐ ă NjĎžơǁƐ DžƑŧđǕƐ **B37.7** Ü ŀƑŢĭĞĎžǁƐ

**ICD-10 B37.0 candidal stomatitis; B37.1 pulmonary candidiasis;**
**B37.2 candidiasis of skin and nail; B37.3 candidiasis of vulva and vagina;**
**B37.4 candidiasis of other urogenital sites; B37.5 candidal meningitis;**
**B37.6 candidal endocarditis; B37.7 candidal septicaemia**

ƫŔẸĢţă øÅÛÀöă ÜThrush àŸÊöă Ü(Candidosis ÛMoniliasis) ğÅŔẸĢţă öăå ᐧ ğÅžåăÅţă .Candiodomycosis

(Monilia) *Candida albicans* ... (*Oidium albicans*) ... *C. Parapsilosis* ... *C. Tropicallis* ... *C. guillermond* ... *C. krusei* ... *.C. lusitaniae*

... 5 × 3 ... chlamydospores ... Hyphae ... Habitat ... Filments ... (1983 – ... Buddiy ... (1989) ... 1980) ... 9 ...

... %5.4 ...

.(Gonzalez-Mendozo, 1970)

[illegible]

[illegible] intertrigo [illegible]

[illegible] .(Edwards, 1990) [illegible]

[illegible] .(Syrjanen *et al.*, 1988) [illegible]

[illegible] .(Edwards, 1990) [illegible]

[illegible] *Trichomonas* [illegible]

efficacy [18] (50) [4] [2] Polyenes [4] [536] [30] [269] %5.6 [7] [267] %5.2 .(Philpott-Howard *et al.*, 1993)

%8

[illegible] %20 [illegible] Crop [illegible] Cloaca [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] (Vazques *et al.*, 1993) [illegible]

[illegible]

[illegible] %44 – %35 [illegible] °37 [illegible] °25 [illegible] Seeding [illegible] 48 – 24 [illegible] (Carter and Chengappa, [illegible] 4 – 2 [illegible] °37 [illegible] 1991) [illegible]

[illegible] antigenemia [illegible] (Lemieux *et al.,* 1990 Bougnoux *et al.,* 1990) [illegible] M [illegible] G [illegible] M [illegible] G [illegible] M [illegible]

[illegible] .(Ajello & Kaplan, 1980)

[illegible] (110 [illegible] (1:2,000) [illegible]

# ÛøШƐþøDžΙΙЄ


Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Ajello, L., W. Kaplan. Systemic mycoses. *In*: Stoenner, H., W. Kaplan, M. Torten, eds. Section A, Vol 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1980.

Anderson, K.L. Pathogenic yeasts. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Beemer, A.M., E.S. Kuttin, Z. Katz. Epidemic venereal disease due to *Candida albicans* in geese in Israel. *Avian Dis* 17:639–649, 1973.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bougnoux, M.E., C. Hill, D. Moissenet, *et al*. Comparison of antibody, antigen, and metabolite assays for hospitalized patients with disseminated or peripheral candidiasis. *J Clin Microbiol* 28:905–909, 1990.

Carter, G.R. *Diagnostic Procedures in Veterinary Microbiology*. 2nd ed. Springfield: Thomas; 1973.

Carter, G.R., M.N. Chengappa. *Essentials of Veterinary Bacteriology and Mycology*. 4th ed. Philadelphia: Lea & Febiger; 1991.

Childress, C.M., J.A. Holder, A.N. Neely. Modifications of a *Candida albicans* biotyping system. *J Clin Microbiol* 27:1392–1394, 1989.

Edwards, J.E., Jr. *Candida* species. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

González-Mendoza, A. Opportunistic mycoses. *In*: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Gordon, M.A. Current status of serology for diagnosis and prognostic evaluation of opportunistic fungus infections. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses*. Washington, D.C.: PAHO; 1975. (Scientific Publication 304).

Lemieux, C., G. St.-Germain, J. Vincelette, *et al*. Collaborative evaluation of antigen detection by a commercial latex agglutination test and enzyme immunoassay in the diagnosis of invasive candidiasis. *J Clin Microbiol* 28:249–253, 1990.

Negroni, P. *Micosis cutáneas y viscerales*. 5.ª ed. Buenos Aires: López; 1972.

Odds, F.C., A.B. Abbott. A simple system for the presumptive identification of *Candida albicans* and differentiation of strains within the species. *Sabouraudia* 18:301–317, 1980.

Odds, F.C., A.B. Abbott. Modification and extension of tests for differentiation of *Candida* species and strains. *Sabouraudia* 21:79–81, 1983.

Philpott-Howard, J.N., J.J. Wade, G.J. Mufti, *et al*. Randomized comparison of oral fluconazole versus oral polyenes for the prevention of fungal infection in patients at risk of neutropenia. Multicentre Study Group. *J Antimicrob Chemother* 31:973–984, 1993.

Soltys, M.A. *Bacteria and Fungi Pathogenic to Man and Animals*. London: Baillière-Tindall; 1963.

Syrjanen, S., S.L. Valle, J. Antonen, *et al*. Oral candidal infection as a sign of HIV infection in homosexual men. *Oral Surg Oral Med Oral Pathol* 65:36–40, 1988.

Vázquez, J.A., V. Sánchez, C. Dmuchowski, *et al*. Nosocomial acquisition of *Candida albicans*: An epidemiologic study. *J Infect Dis* 168:195–201, 1993.

# COCCIDIOIDOMYCOSIS [illegible]

[illegible] B38.1 [illegible] ICD-10 B38.0 [illegible] B38.7 [illegible] B38.3 [illegible] B38.8 [illegible]

**ICD-10 B38.0 acate pulmonary coccidioidomycosis; B38.1 chronic pulmonary coccidioidomycosis; B38.3 cutaneous coccidioidomycosis; B38.7 disseminated coccidioidomycosis; B38.8 other forms of coccidioidomycosis**

[illegible] Posada's [illegible] *Coccidioides immitis* [illegible] arthrocondium [illegible] arthrospore [illegible] 5-2 [illegible] 80 – 10 [illegible] endospores [illegible] (Spherules (Drutz and [illegible] 6 – 4 [illegible] Huppert, 1983) [illegible] (Stevens, 1990) [illegible]

[illegible] 2 [illegible] 1.5 [illegible] .(Borelli, 1970)

[illegible] %100 [illegible] 25,000 [illegible] .(Ajello, 1970 [illegible] Fiese [illegible] %25 [illegible] 100,000 (Drutz & Huppert, [illegible] .1983) %5 [illegible] Reactors [illegible] %50 [illegible] 450 [illegible] 1,208 [illegible] 1991 [illegible] %80 [illegible] %63 [illegible] .(CDC, 1993) [illegible]

[illegible]

[illegible] %15 [illegible] %5 [illegible]

[illegible] 200 [illegible] 100 [illegible] (Velasco Castrejon and [illegible] %13 [illegible] %12 [illegible] 459 [illegible] %6.75 [illegible] .Compos Nieto, 1979) .Coccidiodin [illegible] 3,032 [illegible] 175 [illegible] (%44) 77 [illegible] %2.5 [illegible] .(Cervantes *et al.,* 1978)

[illegible] %60 [illegible] 4 – 1 [illegible] %40 [illegible] %5 [illegible] .(Ampel *et al.,* 1989) [illegible] 8 – 6 [illegible]

[illegible] (CDC, [illegible] .(Drutz, 1982) [illegible] %0.5 [illegible] .1993) [illegible] %50 [illegible] %10 [illegible] %50 [illegible] %33) [illegible] Eosinophilic pleocyrosis [illegible] .(Ragland *et al.*, 1993) [illegible] .(Drutz, 1982) [illegible] .(Ampel *et al.*, 1993) [illegible]

[illegible] %5 [illegible] 4 [illegible] 400 [illegible] .(Ampel *et al.*, 1989) [illegible] 47 [illegible] .(Galgiani *et al.*, 1993) [illegible] 37

15 1992 1984 1975 %53 %24 91 45.5 %33 %60

19 18 9 10) llamas

.(Fowler *et al.*, 1992)

.(Timoney *et al.*, 1988)

[illegible] .(Larsen *et al.,*1985, Ampel *et al.,*1989)

[illegible]

.(Ampel *et al.,* 1989) [illegible]

[illegible] endospores [illegible] aerosolization [illegible]

[illegible] (1) [illegible] (2) [illegible] %10 [illegible] (3) [illegible]

[illegible] spherulin [illegible] 5 [illegible] 48 [illegible] 24 [illegible]

[illegible] significant [illegible] %43 [illegible] %43 [illegible] %14 [illegible] (Gifford and Catanzaro, 1981) [illegible] Prognosis [illegible] M [illegible] G [illegible] (Drutz, 1982) [illegible] %95 [illegible] %75 [illegible] (Catanzaro & Flatane, 1983) [illegible]

[illegible]

(Drutz and Huppert, 1983) 1431 1436 1985 1980 (Pappaganis, 1993)

Ajello, L. Comparative ecology of respiratory mycotic disease agents. *Bact Rev* 31: 6–24, 1967.

Ajello, L. The medical mycological iceberg. *In*: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Ajello, L., L.K. Georg, W. Kaplan, L. Kaufman. *Laboratory Manual for Medical Mycology*. Washington, D.C.: U.S. Government Printing Office; 1963. (Public Health Service Publication 994).

Ampel, N.M., C.L. Dols, J.N. Galgiani. Coccidioidomycosis during human immunodeficiency virus infection: Results of prospective study in a coccidioidal endemic area. *Am J Med* 94:235–240, 1993.

Ampel, N.M., M.A. Wieden, J.N. Galgiani. Coccidioidomycosis: Clinical update. *Rev Infect Dis* 11:897–911, 1989.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Borelli, D. Prevalence of systemic mycoses in Latin America. *In*: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Catanzaro, A., F. Flataner. Detection of serum antibodies in coccidioidomycosis by solid-phase radioimmunoassay. *J Infect Dis* 147:32–39, 1983.

Cervantes, R.A., A.J. Solózano, C.B.J. Pijoan. Presencia de coccidioidomicosis en bovinos del Estado de Sonora. *Rev Latinoam Microbiol* 20:247–249, 1978.

Davis, J.W. Coccidioidomycosis. In: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Drutz, D.J. The mycoses. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Drutz, D.J., M. Huppert. Coccidioidomycosis: Factors affecting the host-parasite interaction. *J Infect Dis* 147:372–390, 1983.

Fiese, M.J. *Coccidioidomycosis*. Springfield: Thomas; 1958. Cited in: Ajello, L. The medical mycological iceberg. *In*: Pan American Health Organization. *Proceedings: International*

*Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Fowler, M.E., D. Pappagianis, I. Ingram. Coccidioidomycosis in llamas in the United States: 19 cases (1981–1989). *J Am Vet Med Assoc* 201:1609–1614, 1992.

Galgiani, J.N., A. Catanzaro, G.A. Cloud, *et al.* Fluconazole therapy for coccidioidal meningitis. The NIAID-Mycoses Study Group. *Ann Intern Med* 119:28–35, 1993.

Gifford, J., A. Catanzaro. A comparison of coccidioidin and spherulin skin testing in the diagnosis of coccidioidomycosis. *Am Rev Resp Dis* 124:440–444, 1981.

Kohn, G.J., S.R. Linne, C.M. Smith, P.D. Hoeprich. Acquisition of coccidioidomycosis at necropsy by inhalation of coccidioidal endospores. *Diagn Microbiol Infect Dis* 15:527–530, 1992.

Larsen, R.A., J.A. Jacobson, A.H. Morris, B.A. Benowitz. Acute respiratory failure caused by primary pulmonary coccidioidomycosis. Two case reports and a review of the literature. *Am Rev Resp Dis* 131:797–799, 1985.

Maddy, K.T. Coccidioidomycosis. *Adv Vet Sci* 6:251–286, 1960.

Negroni, K.T. *Micosis cutáneas y viscerales*. 5.ª ed. Buenos Aires: López; 1972.

Pappagianis, D. Evaluation of protective efficacy of the killed *Coccidioides immitis* spherule vaccine in humans. The Valley Fever Vaccine Study Group. *Am Rev Resp Dis* 148:656–660, 1993.

Ragland, A.S., E. Arsura, Y. Ismail, R. Johnson. Eosinophilic pleocytosis in coccidioidal meningitis: Frequency and significance. *Am J Med* 95:254–257, 1993.

Stevens, D.A. *Coccidioides immitis*. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*. 8th ed. Ithaca: Comstock; 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Coccidioidomycosis—United States, 1991–1992. *MMWR Morb Mortal Wkly Rep* 42:21–24, 1993.

Velasco Castrejón, O., E. Campos Nieto. Estudio serológico de la coccidioidomicosis bovina y porcina del Estado de Sinaloa (México). *Rev Latinoam Microbiol* 21:99, 1979.

Ziemer, E.L., D. Pappagianis, J.E. Madigan, *et al.* Coccidioidomycosis in horses: 15 cases (1975–1984). *J Am Vet Med Assoc* 201:910–916, 1992.

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## CRYPTOCOCCOSIS ŀƑĩ2ƢǂƨǄǁȴ ƅƐƣ

**B45.2** Ĭ ƢǅǄǁȴ ŀƑĩ2ƢǂƨǄǁȴ ƅƐƣ **B45.1** ă Ǌəƥǁȴ ŀƑĩ2ƢǂƨǄǁȴ ƅƐƣ **B45.0 ICD-10**

ƅƐƣ **B45.7** Ĭ ǄƲƴǁȴ ŀƑĩ2ƢǂƨǄǁȴ ƅƐƣ **B45.3** Ǚ ă ƣǂɯǁȴ ŀƑĩ2ƢǂƨǄǁȴ ƅƐƣ

ŀƑĩ2ƢǂƨǄǁȴ ƅƐƣ ǄǄ ǌƥƢƈ ǜƑ ǀ ʅ ƈ **B45.8** Ǜƥƙǂǆǁȴ ŀƑĩ2ƢǂƨǄǁȴ

**ICD-10 B45.0 pulmonary cryptococcosis; B45.1 cerebral cryptococcosis; B45.2 cutaneous cryptococcosis; B45.3 osseous cryptococcosis; B45.7 disseminated cryptococcosis; B45.8 other forms of cryptococcosis**

– ¢èζǟ ô Åƞ ÛȖøǻǿʂǰǟ Ƞƚ3ÀøǤǟ øÅÛÅǟ ÛTorulosis ğ ÅÆÅÅϘÊţ ŏåå : ğ ÅζåǟÀøţ

[illegible]

[illegible]) *Cryptococcus neoformans* [illegible]
*Torula* [illegible] *Torulopsis* [illegible] *Saccharomyces*
[illegible] (*Histolytica*
[illegible] $7^{-4}$ [illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible] (D [illegible] A [illegible]) [illegible]
[illegible] (C [illegible] B [illegible]) *gattii* [illegible]
([illegible]) [illegible] D [illegible] A [illegible]
[illegible] C [illegible] B [illegible] D [illegible] A [illegible] C [illegible] B [illegible]
[illegible] 1990) [illegible]

[illegible]
[illegible] A [illegible]
([illegible]) [illegible] D [illegible]
[illegible] C [illegible] B [illegible]
[illegible]
[illegible] *et al.,* 1981 [illegible] *et al.,* [illegible]
[illegible] 1982)
[illegible]
[illegible] 24) 26 [illegible] 25 [illegible]
[illegible] 25) 22 [illegible] 21 [illegible]

23 ȸŋ 6652 ǨÀÀò ÆȬʐ ÛŰòÜ ǴÀÂRǵ ǥÀȚP ÆDZʐǩ Q̄Eǵ ÛÆÕäÀ0èÜ ā ʐÀDZ Ž ÀŋÜ ·ÅRÀÜ ǴĔǨɞā āÀRō 3ÀǨÀŋ øÀĪ0ǎ ğāæ ʔÀnÜ 3ȩāʐŋ ·(1987) ǴĔǨɞā ÀŒÜ ʔŶ3 ǴÀóǽ (73 ȸŋ 30) ÀEǿøʐÀEÖÀÕ āʐÀDZş (31 ȸŋ Ƀøāøæ 10) ŎÀäāƎŏā ȾĿ 1981 ƙǣ 105 ȸŋ ğāáÀÀ0Êŋ 101 ǨÀÀò ÆÕʐ ˙ƙ0ÀDZøɉā Ž ÀŋÜ ·(1984 ȻØĿ ·(B ȾŶÔţā ÙŧÀŏā) ǴĔǨɞā āÀȑ 4ş Ǵŋøʐţā āÀȑ Ǵŋøʐţā ǴĔÀÁ0Êţā ÀŒÜ ʔŶ3 1990ş ·(1992) ǥÆĦ00ţā ğÀÀɍʐŏā Ž áʐDZʐŋ ʐĿ Àţ ǴŏÀĪŋ ğÀÆÛȞţā

ǨÕ0ş ·ŏÀÊÀŏā Ž Àư ʔŶ3Ü ȯÀDZÀŏā Ž ţʐȩş 3ŋ ÛǴÀáāÀʐ ğɍÀΣā ˙ɉÀÊǿqā Ž ǫşÆΣā ɉÀÕş ÛǥÆĦ00ţā ğÀÀɍʐŏā Ž 1997 ȳÀ3 ɃÜ 1965 ȳÀ3 ȸŋ ğÀÆÀÁ0Êţā ŏāá ȸŋ ǴŏÀǵ 1264 240ş ÛÀÀÀĦÊŏā āÀȚ0ŏā ȽȚÀÆŏ 1997ş 1973 ȾŋÀ3 ƙǣ Ǵ0Ǵ3ŋ ǴŏÀǵ 848 ƙǣ ȸŋ ʔȑÀŋ 608 3ŋ ǴǿøÀÕŋ ǥKǴÕ ǥáÀÀä ɃÜ ğÀÆÛȞţā ȻØĿ ƘĪǩ ·ǴĔÀĦè ǯøÀn ğÀĦȑʐǩ ȽȚÀÆŏ ÅRÀÀŋ ȾŋÀ3 ƙǣ ÀÀÂEŏÀŋ Ž ǴŏÀǵ 85 ŏÀÀĿ ɉÀÕ ·(1968) ÀÒǣÜ ğāÀ0ʐ ·(1982) ȾÊĔø ŎÒĪǣ ǴĔÆÔŏā ǴĔÀ0ɉā ƙǣ 1980ş 1974 äÀȚɞā Ž āʐĔ3 ȽȚÀÆŏ ȸÀØŏā ʔȑÀţā Ž Àǣşøşş ǥÆĦ00ţā ğÀÀɍʐŏā Ž ğÀÆÀÁ0Êţā ŏāá ǫÆ3 ·Ǵ3ÀÀŧŶŏ Ǵ0ǣÀÕ ǴɞÀĦţ āʐĦRn ȸÀØŏā şÜ (äÆÀqÀǣ ƙǣÀÔţā ǴŏÀnş) ȾÊĔø ŎÒĪǣ Ⱦ3ÀÀţā áÆĦŏā dzşāÀǩ ·áÀÀáāā Ž äÆÀqā Ž ƙǣÀÔţā áÆ3 ɉɉ ÅEţÀ3 áÀÀáāā Ž ôÀţā øÀĪ0ǎ áÀÀáāɍÀǣ ÛÆǣ Q̄Eǵ Û1987 ȳÀ3 ʔø0ǵ ğɍÀǵ 8 −4 ȸŋ ƙ0ÀDZøɉā Ž ğɍÀĦŶŏ ɃʐÀÊŏā 39 −20 ƙǣ ǴǣÀòÜ ÀǯÕɉā ǴÀÀŧĦŏā ǴÀÀŏā Ǩ0ÀÕ ·1990 ȳÀ3 ǴŏÀǵ 35 ɃÜ ŎòşşÛ1988 ȳÀ3 (B äÆÀqā ʐĿ ƙʐÆŏā ôÀţā ɉÀÕ ÀŋÆ3 ǴòÀn ÛŏÀÊÀŏā ȸŋ ǴǣÀòÜ ÀǯÕÜ ȯÀDZÀŏā ɉÀÕ ·ǴÀè ǴǴÊÀŏā ğáāáāā ·1 ɃÜ 3 Ǩ0ÀÕ ŏÀÊÀŏā ɃÜ ȯÀDZÀŏā ǴǴÊ0 ɉÜ øÆȩ Æȩş Û(1992 1990 ȳÀ3 1125 ȸŋ ƙ0ÀDZøɉā Ž ğÀÆÀÁ0Êţā ŏāá āʐÛŎ0ŏā ȸÀØŏā äÆÀqÀǣ ƙǣÀÔŧŶŏ ǴÀʐÀţā äÆÀqÀǣ ƙǣÀÔţā Ž ğÀÆÀÁ0Êţā ŏāá ţʐȩʐŏ ǴŏÀĪŋ ǴÀʐÀţā ǴǴÊÀŏā ȻØĿ ·1991 ȳÀ3 2259 ɃÜ ğÀÀɍʐŏāş Àǣşøşş Ž Àư ƎÕÜ ÀȚÀÒŏ Û(395 ɃÜ 220) ÀEèÜ àÀì āʐÀDZş ÀEÖÀÀʐÜ Ùèş Ž ôāÀŋɉā ƙǣ ƆÀǯŏā ʐĿ ʔƎÒŏā ÈÀÀÀÜ È0ʐEǣ Ž ğÀÆÀÁ0Êţā ŏāá ·(1110 ɃÜ 660) ǥÆĦ00ţā ɉÀÕ ˙ʔÀnÜ ǴĔǥÀ0 ȸŋ ·(B *et al*,1992) ȾÀÀÀţā ğÀREǴţā ŏāá ÆĦǣ äÆÀRō ǴÕǵŶŏā

[illegible]

[illegible] 1990, 1985 [illegible] 138 [illegible] 29 [illegible] 17 [illegible] *et al.,*1992)

[illegible] 100 [illegible] 6 [illegible] 06 – 04 [illegible] 1990, 1990)

[illegible]

[illegible] et al., 1990) [illegible] 13 [illegible] 21 [illegible] 1 [illegible] 4 [illegible] 1981) [illegible] 15 [illegible] 29 [illegible] 24 [illegible] 8 [illegible] 6 [illegible] 21 [illegible] et al., 1992) [illegible]

[illegible]

[illegible] 35 [illegible] Camaldulensis [illegible] Camaldulensis [illegible] 1990) [illegible] 7 –4 [illegible] 1982) [illegible]

[illegible] 1978)

[illegible] et al., 1982; [illegible] 1982 [illegible] et al., [illegible] 1981

[illegible] *et al.,* 80) [illegible] 37 [illegible] 30 [illegible]

[illegible] 828 [illegible] 69 [illegible] 828 [illegible] 16 [illegible]

[illegible] *et al.,*1990) [illegible] 17 [illegible] 184 [illegible] 20 [illegible] 20 [illegible] 19 [illegible] *et al.,* 1990) [illegible] 9 [illegible]

[illegible]

(1990)


Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Bava, A.J., R. Negroni. Características epidemiológicas de 106 casos de criptococosis diagnosticados en la Repilblica Argentina entre 1981–1990. *Rev Inst Med Trop Sao Paulo* 34:335–340, 1992.

Bava, A.J., R. Negroni, A.M. Robles, *et al.* Características epidemiológicas de 71 casos de criptococosis diagnósticos en diferentes centros asistenciales de la ciudad de Buenos Aires y sus alrededores durante 1991. *Infect Microbiol Clin* 4:85–89, 1992.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Beyt, B.E., Jr., S.R. Waltman. Cryptococcal endophthalmitis after corneal transplantation. *N Engl J Med* 298:825–826, 1978.

Chapman, H.M., W.F. Robinson, J.R. Bolton, J.P. Robertson. *Cryptococcus neoformans* infection in goats. *Aust Vet J* 67:263–265, 1990.

Cohen, J. The pathogenesis of cryptococcosis. *J Infect* 5:109–116, 1982.

Diamond, R.D. *Cryptococcus neoformans*. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Drutz, D.J. The mycoses. *In*: Wyngarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*. 16th ed. Philadelphia: Saunders; 1982.

Ellis, D.H. *Cryptococcus neoformans* var. *gattii* in Australia. *J Clin Microbiol* 25:430–431, 1987.

Ellis, D.H., T.J. Pfeiffer. Natural habitat of *Cryptococcus neoformans* var. *gattii*. *J Clin Microbiol* 28:1642–1644, 1990.

Fromtling, R.A., S. Shadomy, H.J. Shadomy, W.E. Dismukes. Serotypes B/C *Cryptococcus neoformans* isolated from patients in nonendemic areas. *J Clin Microbiol* 16:408–410, 1982.

Gordon, M.A. Current status of serology for diagnosis and prognostic evaluation of opportunistic fungus infections. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses*. Washington, D.C.: PAHO; 1975. (Scientific Publication 304).

Kaplan, W., S.L. Bragg, S. Crane, D.G. Ahearn. Serotyping *Cryptococcus neoformans* by immunofluorescence. *J Clin Microbiol* 14:313–317, 1981.

Kaufman, L., S. Blumer. Cryptococcosis: The awakening giant. *In*: Pan American Health Organization. *Proceedings of the Fourth International Conference on Mycoses: The Black and White Yeasts*. Washington, D.C.: PAHO; 1978. (Scientific Publication 356).

Kwon-Chung, K.J., J.E. Bennett. Epidemiologic differences between the two varieties of *Cryptococcus neoformans*. *Am J Epidemiol* 120:123–130, 1984.

Kwon-Chung, K.J., I. Polacheck, J.E. Bennett. Improved diagnostic medium for separation of *Cryptococcus neoformans* var. *neoformans* (serotypes A and D) and *Cryptococcus neoformans* var. *gattii* (serotypes B and C). *J Clin Microbiol* 15:535–537, 1982.

Liss, H.P., D. Rimland. Asymptomatic cryptococcal meningitis. *Am Rev Resp Dis* 124:88–89, 1981.

Malik, R., D.I. Wigney, D.B. Muir, *et al.* Cryptococcosis in cats: Clinical and mycological assessment of 29 cases and evaluation of treatment using orally administered flucanozole. *J Med Vet Mycol* 30:133–144, 1992.

Medlean, L., M.A. Marks, J. Brown, W.L. Borges. Clinical evaluation of a cryptococcal antigen latex agglutination test for diagnosis of cryptococcosis in cats. *J Am Vet Med Assoc* 196:1470–1473, 1990.

Muchmore, H.G., F.G. Felton, S.B. Salvin, E.R. Rhoades. Ecology and epidemiology of cryptococcosis. *In*: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Negroni, P. *Micosis cutáneas y viscerales*. 5.ª ed. Buenos Aires: López; 1972.

Nelson, M.R., M. Bower, D. Smith, *et al.* The value of serum cryptococcal antigen in the diagnosis of cryptococcal infection in patients infected with the human immunodeficiency virus. *J Infect* 21:175–181, 1990.

Pathmanathan, R., T.S. Soo-Hoo. Cryptococcosis in the University Hospital Kuala Lumpur and review of published cases. *Trans Roy Soc Trop Med Hyg* 76:21–24, 1982.

Salkind, I.F., N.J. Hurd. New medium for differentiation of *Cryptococcus neoformans* serotype pairs. *J Clin Microbiol* 15:169–171, 1982.

Scott, E.N., H.G. Muchmore, F.G. Felton. Comparison of enzyme immunoassay and latex agglutination methods for detection of *Cryptococcus neoformans* antigen. *Am J Clin Pathol* 73:790–794, 1980.

Sutton, R.H. Cryptococcosis in dogs: A report on 6 cases. *Aust Vet J* 57:558–564, 1981.

Wainstein, M.V., L. Ferreira, L. Wolfenbuttel, *et al.* Achados neuropatológicos na síndrome da imunodeficiência adquirida (SIDA): revisão de 138 casos. *Rev Soc Brasil Med Trop* 25:95–99, 1992.

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## DERMATOPHYTOSIS ăơǂШǁɛ ƥƑƯƶǁɛ

### ICD-10 B35

ǦÀȞÊöä ÛǷ ȻÆŸƨä øÀÛÀöä ÛŦ ǦÀȞÊöä ˙ğÀẓåäÀţä ţẓÀöäş *Trichophyton* ǦÀşÄȞÎöäş *Microsporum* ǒÄ8ÀẓǤöä ȸŋ ǥÆÀÆȜ ţäẓǷÛ ˙ğÀÆǤǤÊöä ţåẓǷÊţä ÆÊǵ ğÀȜẓŧf ǦǷŸǷ ÀÆÆǷ Ź ·*Epidermophyton floccosum* ǦÆẓÆÀöä ǦÀşÄÎǤöä ɓ ȷäẓÆΣÀæ ǦȜẓöẓöäş Ûɓ ÄÎǤöÀæ ǦȜẓöẓöä ˙(ÀÆDZẓöẓÒÀä) ÀÆÀÆæş ÀÆəÀæş ȷÀÊǷRö ÕǬǷÀÀ ȻØöä ÜŐẓ ȷäẓÆΣÀæ ţẓöẓöä ţẓÀöä ÀÀŁ Ì ȩÀÀÀèş ÜȜ ā äÀǬöÀæ ǦȜẓöẓöäş ·ÜŐẓ

[illegible] (*Deuteromycotyna , Fungi imperfecti* [illegible]) [illegible] *T. metagrophytes* [illegible] (*Nannizza otae* [illegible] *.T. vesrucosum* [illegible] (*Arthoderma benhamine* [illegible]) [illegible] *M. equinum* [illegible] *T. simii* [illegible] *M. nanum* [illegible] *M. gallinae* [illegible] *.M. persicolor* [illegible]

[illegible]

[illegible] *Simii* [illegible]

·gåÅ3 òÆÛĤţä şÜ åøÅGöä pÅAţä ğäæ ĘùÅAţä

·ĞęÆä ȣşÅĤŋ Ƙɖ ÅŁøÅÎÔåä JÜ ɍÜ ĞĤəÅÌ ɃÆŸƨä ÅÛÅöä Ɂşäɇ3 ·JÅÊφɋä Ž ǫÆΣä gƘȣö Ɂşäɇ ƙåÅÔţä âÅÅöä ȸŋ Ƙǯõ øşÅA ɍ ·Õöæ ȸŋ Åǯõ Õæ ÛŊɇŸGǪöä ÆDZäş Ƙɖ ôÅţä ğäöÅÔÕǪèɍäş ğÅÅÛÅöä ğäƎǪƲş ĞAÆŸƨä ôäÅŋɟä öÅGùÜ ȸŋ ğÅÆÛĤţä ĻȚĤŋ ɄøǨǩ ·ÅGɇGù ĞAÆŸƨä ğÅÅÛÅöä ţäȥφÜ ȒĤæ Ž ûȥĦŸŋ ÒÕφ ȸŋ ÅAåÅÔǪęä ĞŋÆÕǪţä JäÆŸGöä ĶφÅ3 ·ĞɇəÅäȥöä ğÅɇÌÅȥ ÆGÊǨ ɄøǪöäş *audouinii* *Ğłφşåşɟä öÅȣAȥGŸö* ĞGÊAöÅæ ǴɇĦö äØŁş ·ÅÎGöÅæ Ğ3ȥöȥöä JäȥɇΣÅæ Ğ3ȥöȥöä ĞAÆŸƨä ğÅÅÛÅöä JÜ JäÆŸGöä ȻØŁ Õǯŋ Ž ·(?) âÜÅöä ĞAĤè ȸŋ ĞɇəÅäş øÅÎǪφä ĻɇÕǪö ĞŸəÅ3 [23] ɁŸ3 äÅǪŸÒφÜ Ž ĶAÅDZÜ Ğèäøå ğÆDZş ·ƘǯÒæ ĞɇƵÜ Åǯõ Jɇä ɄŁ ĶƠ şÜ ĞAÅAÊöä ɁşÆĤöÅæ ĞæÅÔŋ ÙÛę øÅȣö ĞÛöÅÅŋ äȥφÅõ ȸAØöä ĞŸəÅĤöä öÅȒ3Ü ƙæ ɁşÆĤöä ĶφÅõ ·*ĞɇĠŸÒöä öÅȣAȥGöä* ȸ3 ĞƤÅAöä ɁşÆĤöä äȥÛÕǪöä (50) ÅÔÅÌ [92] ȸŋ [46] JÜ ĞAÅAÊöä (15 ȸŋ 12) (80) ƙĤȥÅɇöäş òÅAùɊöş [442] ȸAÆĤAţä ƙȣöÅGŸö ĞAȥÅţä ĞGÊAöä Ž Ğ3äøÅöä gøäåş Ž ÅAÛɇæ ÅGɇGù [171] ɁŸ3 ĞAåÅĤǪèä Ğèäøå ğÆDZş ·(1986)

øÅÎǪφä 3ŋ ÛĦ3ȥɇÌ Åǯõɟä øÆÔţä ɄøφäȥɇΣä ôÅţä ȥŁ ɃÆŸƨä øÅÛÅöä JÜ gÆĦǪţä ĞÕŸŁţä JÅõ ·(1986 Ž gøȥõØŋ ) [24] ȻøÆę Ž ĞöÅģ [84] Ɓäȥģ ÅɇφÅGèÜ Ž ÆAøÆŋ àÅÌ òÅƽ Ž ɃÆŸƨä øÅÛÅŸö ɃȥÅÊöä ţȥęȥöä òÆĤŋ ÅÛȥ ɄŁş Û*ĞɇȥÆAöä ĞAşÅÎGöä* ĶφÅõ ÅȒAÅŋ [135] Ž ÅAǩäȥǩ Åǯõɟä ÕŋäȥĤöäş ÛĞɫÊφ [10000] Õõ (20.7) *ĞłφÅęØöä ĞAşÅĤÎöä*ş (26.6) *ĞɇĠŸÒöä öÅȣAȥGöä*ş (36.5) ÅÎGöÅæ ţȥöş ɃÆŸDZ ĞɇÆ3 [1225] ɁŸ3 ƙǪDZøɟä Ž ĶAÅDZÜ ĞAåÅĤǪèä Ğèäøå ğøÅÌÜ ·( *et al.,* 1990) ĶφÅõ (60) JÜ ƁÜ (ɟÅAùÜ äȥφÅõ (5%) ş ƙȣöÅæ äȥφÅõ ɁȒÅţä ȸŋ (95%) ) ĞɇĦÛè ğäøÅÛȥ ȸŋ ÅȚǪŸǩ Û(66.6) ( *öäÅɫΣä ĞAşÅĤÎöä* ȥŁ Å3ȥɇÌ Åǯõɟä ÕŋÅĤöä JÅõ ·ĞAÆŸDZ ğÅÅÛȥ ·( *et al.,* 1993 ) ɁÅǹÜ Õŋäȥ3ş (80) *ĞɇĠŸÒöä öÅȣAȥGöä*ş (20) *ĞłφÅęØöä ĞAşÅĤÎöä* ĞAÆŸƨä ğäøÅÛÅöä ȸŋ [21] ȸ3 ĞöşúÊŋ JäȥɇΣÅæ Ğ3ȥöȥöä ţäȥφɟä JȥÒǨ JÜ ÕɫǪǂä ȸŋ Ž ĶAÅDZÜ Ğèäøå ğÆDZş ·(1982) şƘGöä Ž ĞɇφÅÊφɋä [145] ȸŋ [56] ȸ3 ĞöşúÊŋ *ĞłφÅęØöä* âÅȓ *ĞłφÅęØöä ĞAşÅĤÎöä*ş *ĞɇöȥöúǯöäĞAşÅĤÎöä* JÜ ÆATä

Ž ĞĔφÅÊφqä ğ ŧÅΣä ďŋ (638) 93 ďŋ 50 ďʒş ÛĞĔφÅÊφqä ğäåÀÀϘÊţä ďŋ (386) ¢Ɇʒ ďȒƮ Ž ĞĔφÅÊφqä ğ ŧÅΣä ďŋ ƘĴÖöä üÎφ (F et al., 1980) ĞĔÀÀÀöä ĞÕÛÅţä *ĞĔφÅçØöä* āÀȑ *ĞĔφÅçØöä ĞÀşÄĤÎöÅä* ĞÀÆĤÅŋ Æφáøɉä Ōõ ǨφÅõ ·ÀÀøÅ8ÀĿ Ž Æφøǖ 5500 (H ĺőŸəÅʒş ƙŸŋÅĤöä ƙä ĞĔφÅÊφǖ ĞöÅǵ 38 ğÅƮşş Ü(In *ĞĔĞΣä* āÀȑ) .(K 1983)

ʔşÆĤöä ɉǖ ǵƘǹɉä ğäʒÀÊöä Ž ĞĔəÅäʒöä ğÅèäøÆöä ǨĦȑşǖ ·ğÅφäʒΣä Ž ϙşÆΣä ďŋ ŌĞÛòŧä ğÅφäʒǵ ƙä ÀĂÀäʒǩ ÀĴõǖ ĞÀĤÊöä ·ÀÆDZ ĞĤəÅì ğÅφäʒΣä Ž ƁÆŸƨä øÅÛÀöÅä ·ĞÀÊöä òäʒü Ğǵʒ϶Åŋ Ƀʒ Åŋ Ž ǵåʒDZʒţä ÕŸǩ ĞĔȑäÀʒǖ Ƙɖ Ƀşş ÛÙÛÕöäş āŸÒöä Ž ÀÆDZ ĞĤəÅì *ĞĔĞŸÒöä öÅ8ÀʒĞöÅä* ʔşÆĤöä ɉşå ÅÛę 79 ďŋ (15) 12 Ž ÀƮǵäʒȑş (şƘĞöä) ÅŧĔö Ž *ĞĔĞŸÒöä öÅ8ÀʒĞöä* ğÆDZş·ÀĞöÅɖ 17 ďŋ *ĞĔĞŸÒöä öÅ8ÀʒĞöä* ğåÀÀŀèä ·(10) 8 Ž *ĞĔφÅçØöä ĞÀşÄĤÎöä* ğÆDZşş ÛǵÀĿÅş ğÅʒǖ (F) 22 ďŋ ĞĔφÅçØöä ĞÀşÄĤÎöäş āŸÒöä ďŋ ĞÀÆʒ 432 ďŋ (50) ÀÀÛʒ 1368 ďŋ (92 Ž *ĞĔĞŸÒöä öÅ8ÀʒĞöä* ǨÔÅì ·ǵÆĦϘţä ĞÔŸŧţä Ž ·(P 1982 (F āŸÒöä ďŋ (65 ş ÛĞÀÆĤÅţä ÙÛÕöä ďŋ 1991ş 1956 ƙä ğåÀÀŀèä ÀÀÆŸDZ ·ĞäÅòǖ ÀĴõɉä ĞÀÊöä Àŧʒ ǨƠ ÀĤÎöä ĞŸÀʒÛöä ÙÛÕöäş āŸÒöä ǨφÅõ (et al., 1993) .(F et al., 1993)

ğÅèäøÆöä ğÆDZş Æęş *·ĞĔĞŸÒöä öÅ8ÀʒĞŸö* Àʒʒɇì ÀĴõɉä ţåʒϘÊţäş Ɓʒĵöä ʒĿ ÙÕöä Ž ğÅèäøÆöä ȻØĿ ǨÀÀDZǖ ·ĞòʒĦÅţä ÙÛÕöä ƙä ÀĴõǖ şǖ (88 ş (65 ƙä Åŋ Ž ʔşÆĤöä Ğèäøå Ž ÀŋÅϘ ĞÀŸϘƯ Ğǵʒö ǨƮǵʒö ·ʔÀǹǖ ÙÛę ʒŋ āÅϘ ʔŸʒ ÀƮɆʒ ÙÛÕöä ǨφÅõ ĘüÀÀŋ 13 ÛğÀÀÀÛÀöä ďŋ ÀÊÀDZ 15 åäÀÀϘèä Ź ·ǵÆĦϘţä ğÀŧʒöä Ž ƙÊǩʒÒÊÀå ĞĤŋÅDZ Ž ǨÀÀDZǖ Û*öäÅŧΣä ĞÀşÄĤÎöä* ğåÀÀŀèä ·ÀƮĔÒöÅŋ ʒŋ ÅĿÆǵş ÌĔĤǩ ÀÛę 172 ÆŸDZ ďŋ ÛÀŋÅŋø ƎϘʒä ÀƮÀŋ (In *ĞĔÊĞƨä ĞÀşÄĤÎöä*ş ÛÀÛę 14 ďŋ ÛÀÎĞöÅä Àʒʒöş ÀÀÆŸDZ ÀÀÛʒ ğƎϘʒä Ƀøϙöäş ğåÀÀŀèä ƙǵ Ž ·Ùę ďŋ Ōõ Ûāä ÀϘöÅä ţʒöʒŋ ÅƵŸõş Û(In *öÅ8ÀʒĞöä*ş ɉǖ ŧǖ ÜƁÀÎĞöä ƁÆŸƨä øÅÛÀöä Ž ʒəÅì ŌŋÅʒ *öäÅŧΣä ĞÀşÄĤÎöä* ·ĞĤÊǩ ďŋ ĞĔĞŸÒöä öÅ8ÀʒĞöä

1991)

*audouinii*

*microspora*

et al.,1981)

et al.,1981)

et al., 1992)

et al., 7

1992)

4–2

[illegible] 1990) [illegible]

[illegible]

[illegible] Album [illegible] ochraceum [illegible] Faviforme [illegible] discoides [illegible]

[illegible] 4 –2 [illegible]

[illegible]

Lagomorphs

et al.,1991)

90

20

[illegible] (1980) [illegible] et al.,) [illegible] (1993 [illegible] et al., 1991 [illegible]

[illegible]

[illegible] 200,000 [illegible] et al., 1982) [illegible] 6 [illegible] 1987 [illegible] 14 [illegible] et al., 1991)

## [illegible]


Aamodt, O., B. Naess, O. Sandvik. Vaccination of Norwegian cattle against ringworm. *Zbl Vet Med B* 29:451–456, 1982.

Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Allen, A.M., D. Taplin. Epidemiology of cutaneous mycoses in the tropics and subtropics: Newer concepts. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses*. Washington, D.C.: PAHO; 1975. (Scientific Publication 304).

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Canteros, C.E., G.O. Davel, W. Vivot, S. D'Amico. Incidencia de los distintos agentes etiológicos de micosis superficiales. *Rev Argent Microbiol* 25:129–135, 1993.

Chatterjee, A., D. Chattopadhyay, D. Bhattacharya, A.K. Dutta, D.N. Sen Gupta. Some epidemiological aspects of zoophilic dermatophytosis. *Int J Zoonoses* 7:19–33, 1980.

Chmel, L. Epidemiological aspects of zoophilic dermatophytes. *In*: Chmel, L., ed. *Recent Advances in Human and Animal Mycology*. Bratislava: Slovak Academy of Sciences; 1967.

Cuadros, J.A., J. García, J.I. Alos, R. González-Palacios. Dermatofitosis en un medio urbano: un estadio prospectivo de 135 casos. *Enferm Infecc Microbiol Clin* 8:429–433, 1990.

del Palacio, A., M. Pereiro-Miguens, C. Gimeno, *et al*. Widespread dermatophytosis due to *Microsporum (Trichophyton) gallinae* in a patient with AIDS: A case report from pain. *Clin Exp Dermatol* 17:449–453, 1992.

Emmons, C.W. Mycoses of animals. *Adv Vet Sci* 2:47–63, 1955.

English, M.P. The epidemiology of animal ringworm in man. *Br J Dermatol* 86(Suppl)8:78–87, 1972.

Gentles, J.C. Ringworm. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain*. Oxford: Pergamon Press; 1968.

Georg, L.K. *Animal Ringworm in Public Health, Diagnosis and Nature*. Atlanta, Georgia: U.S. Centers for Disease Control and Prevention; 1960. (Public Health Service Publication 727).

Gómez Pando, V., J. Matos Díaz. Dermatofitos: aspectos epidemiológicos. *Bol Inf Col Med Vet Peru* 17:16–19, 1982.

Gudding, R., B. Naess, O. Aamodt. Immunisation against ringworm in cattle. *Vet Rec* 128:84–85, 1991.

Hay, R.J. Dermatophytosis and other superficial mycoses. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone Inc.; 1990.

Jackson, R.B., B.F. Peel, C. Donaldson-Wood. Endemic *Microsporum canis* infection in a sheep flock. *Aust Vet J* 68:122, 1991.

Lowinger-Seoane, M., J.M. Torres-Rodriguez, N. Madrenys-Brunet, *et al*. Extensive dermatophytosis caused by *Trichophyton mentagrophytes* and *Microsporum canis* in a patient with AIDS. *Mycopathologia* 120:143–146, 1992.

Moriello, K.A., D.J. De Boer. Fungal flora of the coat of pet cats. *Am J Vet Res* 52: 602–606, 1991.

Negroni, P. *Micosis cutáneas y viscerales*. 5.ª ed. Buenos Aires: López; 1972.

Padhye, A.A. Cutaneous mycoses. *In*: Stoenner, J., W. Kaplan, M. Torten, eds. Section A, Vol 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1980.

Pepin, G.C., P.K.C. Austwick. Skin diseases of domestic animals. II. Skin disease, mycological origin. *Vet Rec* 82:208–214, 1968.

Pepin, G.A., M. Oxenham. Zoonotic dermatophytosis (ringworm) [letter]. *Vet Rec* 118:110–111, 1986.

Raubitscheck, F. Fungal diseases. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Rebell, G., D. Taplin. *Dermatophytes: Their Recognition and Identification*. Miami: University of Miami Press; 1970.

Sarkisov, A.K. New methods of control of dermatomycoses common to animals and man. *In*: Lysenko, A., ed. Vol 2: *Zoonoses Control*. Moscow: Centre of International Projects; 1982.

Silva-Hunter, M., I. Weitzman, S.A. Rosenthal. Cutaneous mycoses (dermatomycoses). *In*: Balows, A., W.J. Hausler, Jr., eds. *Diagnostic Procedures for Bacterial, Mycotic and Parasitic Infections*. 6th ed. Washington, D.C.: American Public Health Association; 1981.

Smith, J.M.B. Superficial and cutaneous mycoses. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Snider, R., S. Landers, M.L. Levy. The ringworm riddle: An outbreak of *Microsporum canis* in the nursery. *Pediatr Infect Dis J* 12:145–148, 1993.

Sparkes, A.H., T.J. Gruffyd-Jones, S.E. Shaw, *et al*. Epidemiological and diagnostic features of canine and feline dermatophytosis in the United Kingdom from 1956 to 1991. *Vet Rec* 133:57–61, 1993.

Szili, M., I. Kohalmi. Endemic *Trichophyton mentagrophytes* infection of rabbit origin. *Mykosen* 24:412–420, 1981. *Abst Rev Med Vet* 64:65, 1983.


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## HISTOPLASMOSIS

B39.1 B39.0 ICD-10

B39.5 B39.3

**ICD-10 B39.0 acute pulmonary histoplasmosis capsulati; B39.1 chronic pulmonary histoplasmosis capsulati; B39.3 disseminated histoplasmosis capsulati; B.39.5 histoplasma duboisii**

·ŋÀöøäå öäå ÛⱫƬÒöä

ŌÒï ¢ö ÛŌÒÎöä ȾǝÀĀǫ ÀÛẓ ÛHistoplasma capsulatum gÆȶ8ƫǎ ĞDzèẓÀöǎ ꞉ğÀŒĜÊöä
ĞDzǪÀŋ ÛȾŋÀŋÀöä øẓÛöä Ž ÈRn ĞÈÛÈǹ gøẓÛẓÜ ŌÒÎÀş ȾŸÈÀÛöä øẓÛöä Ž ɃƘȒ
ȸÒƹ Àȶō Û(M ĞÀşƎō ğäƘĜɖş (M ĞÀşÀÒŋ ğäƘĜɖ) ƘæÀɖÜ
·ÿ[37] ĞDZøÆä Ĥ ʔøÀ8ŋ Ǜèş Ž ÀÛÀöä ţøÂæ ƎǪÅƫä Ž ẓȶÀÀ ȷÜ ɃƘȶ̩ä ŌÒÎŸö
gÆȶ8ƫǎ ĞŸÈÊɸẓƹɋǎ ̩èä ǨÈÛȝÜş ÀȒÀÜ ĞẓşÀǨŋ ÀÛÀŸö (ĞÈÊÀƨä şÜ) ĞŸŋÀÒöä ĞöÀΣä
.Emmonsiela capsulate

gÆȶ8ƫǎ ĞDzèẓÀöǎş gÆȶ8ƫǎ äÀȓ gÆȶ8ƫǎ ĞDzèẓÀöǎ ꞉ÖŋÀǨöä ȸŋ ȷÀẓşÀǨŋ ȷÀæÀȓ ōÀÀȽ
ÀÀŸǹ ȷẓÒǩ ƙǵ Ž ÛɃøẓÛẓȷä øẓÛöä Ž ÀȶƬÀÈæ ĘÀÀÀǪöä ȸÒƹ ɟş ·ĞÀäẓæşÆöǎ äÀȓ
ȸŋ (ÀɸşÀÒŋ[15] −[7]) ƘǰÒæ ƎōÜ ʔÆǨÀƫä ǰÈÊÀöä Ž ĞÀäẓæşÆöǎ äÀȓ ɃƘȶ̩ä ŌÒÎöä
·ÀȒÀÜ ĞÀŸǪƯ ÀƬĜĜÊǩ ȾøǪöä ĞÈDzÈÊÀöä ğŸȝÀÀǪöä ȷÜ Àȶō Û(ğÀɸşÀÒŋ [5] −[2]) gÆȶ8ƫǎ äÀȓ
Ž ĞŸÈÊÀöä gÆÈǵẓöä åäÆȓȷä ÿäÆÅǪèä ÀǨŋ ȷÀæÀȒöä ÀƬÈẓ ÆDZäẓǪÀ ȾøǪöä ȸōÀŋȷä Ž dzÀǪęä
.(...et al.,90) ɃƘȶ̩ä øẓÛöä Ž ÀȶƬŌÀÀÀǪö ȷÀǪèş ĞÅÛö şÜ äÀÈöÜ ğäøÀĜǪǹä

ȸŋ ƙǪÈÒÀÀŋȷä Ž ÀÀẓäẓǩ ÀǰōÜş øÀÎǪɟä ȾƫÀȝ gÆȶ8ƫǎ äÀȓ ţäẓǩ ꞉ŽäÀ8ƨä ţäẓǪöä
ĞÀäẓæşÆöǎ äÀȓ ·ÀÈèÜş ÀæøşÜ Ž gøåÀɸ (ĞŸòɇä) ĞŸÈòȷä ĞÀÀÎĜöä ğɟÀΣä ·ȷäÆŸĜöä ĞÈŌæ
Ž ĞẓşÀǨŋ ğɟÀǵ ōÀȽ) ·ɟÀȝ [20]ş ÀæẓÀDZ [20] ōÀǨöä ȾÛǹ ƙæ ǛŌẓ ÀÈŌÀÀẓÜ Ž ĞẓşÀǨŋ
Ž ÀÛÀöä ţäẓǩ ·Àǹɇä äÀȒöä ÆDZäẓǩ 8şÀǨƫä ȸŋ ǬÈǵ (...989) ÀŌÎɖÆŋ
gƘ8ò øüæ ÆDZẓǩş ÛʔÀǹÜ ȸŋ ÀǪẓŸǩ ÀǰōÜ ĘüÀÀƫä ȒǨæ ȷẓÒǩ ǬÈǵ ÛŸǪÀȶǪŋ ÈÈö ĞæÀǪöä
øüĜöä ȸŋ åÆǨæ åÆƠ 8ẓè ĞɸẓüẓƫäĘüÀÀƫä ȷÜ ōÀǪÀÀ ·ƘĜō ŌÒÎæ ŌŋÀǨöä ÂōÀǪÀ ǬÈǵ
·ĞÀäẓæÆöǎ äÀȓ ȷüï ÀŒüï – ǴŸÀǩ ɃĞÈĜöä Ž ÀƬŸǝẓŋ ÆÀÆǶǪö ĞöşØĜƫä åẓƬƨä ·gƘ8Ôöä

ʔŸȝ ÀåÀȶǪȝä Ōöæş ÛÀÆDZ ȝÀǩÀŋ ĞɸẓüẓƫäĘüÀÀƫä Ž ʔşÆǨöä ȯÆǨŋ ꞉ȷÀÊɸɋä Ž ǫşÆΣä
ʔşÆǨöÀæ äẓĞòÜ Æę ĞȶÊɸ ȷẓÈŸŋ [30] ōÀȽ ȷÜ øÆę ÆŌẓ ÛȾŋåȷä ƙŋäŸæẓǪÊÈȚä øÀĜǪǹä ǰǝÀǪɸ
ÂōÀǪǩ ǬÈǵ ÛgÆǶǪƫä ğÀɟẓöä Ž ĞÀè Ōō Àö äÀÔÀ ÀĜÀÀŌǩ ĞȶÊɸ ȷẓÈŸŋ ⱫÔɸş ÛĞDzèẓÀöÀæ
ŌÒÎæ ōÀƫä ÀƬṬÀ ·(...975) ȾøĞÊÈÊƫä ÀŒ ōẓǵş ẓÀȽÜş ɃøẓÊÈŋ Ž ʔşÆǨöä

138 1980

et al., 1983)

435 1979–1978

et al., 51 1981–1980

1983)

et al., 1990)

1970)

75 11

1980 68 12 1979

2000

1981)

1980)

1967 1962 521 3

1978

8 7

et al., 1990)

200

1989)

[illegible] 14000 [illegible] (... et al., 1944) 62 [illegible] 4 [illegible] ... et al., 1953)

[illegible] (... et al., 1990) [illegible] 3 [illegible] 18 –5 [illegible] 40 [illegible]

[illegible] 73 [illegible] *et al.,* 1993) 1988[illegible] 1934 [illegible]

[illegible] *et al.,* 1988) [illegible] 4[illegible] 23) [illegible] 27 [illegible] *et al.,* 1992) [illegible]

[illegible] 50 [illegible] 27 [illegible] 23 [illegible] .*et al.,* 1993)

[illegible] 68 [illegible] 1963 [illegible] 1952 [illegible]

[illegible]

şÜ ğäÆÏÖĦõ ĞĂÆŸƨä ĞÏĞĞΣä ÿäøşɉä ÀȚŢǨ ·ÿÀŢĦöäş ÆŸƨä ǨƠ ǰÏÊÅöäş ÆŸƨä Ž ÛäÀǨäʐǨ ğÀʐǿä ÆDZʐǨ ·ÆŸƨä ǨƠ ǰÏÊÅöä Ž ğÀDZäÀǹ ğÆȽÀÎɳ ȸÓʐ ·ĞÏʐÂõÜ şÜ ĞÏǵÀÖǨ ğÀʐÜ (M – ÀØÆǵÜ ôäÀȝÜ ȷşắ ȷʐÓǨş ÛɄȽŢĦöä ğÀDzèʐÅöä öäắ Ž ğắÆĦǬţä şÜ ĞöşÂĦţä öÀȒȝɉä ȸɳ ǨǰÓöä Ž ÀŸȴä ĞęŸȽȝ ĞÏĞǵ ÿäøşÜ ŌÓÎǬǨ Æę ·(1982)

·ÀȽÏǹş ǴĞÔÅş ôÀţä ʔęÀǬÅ ÀɳÆȝ ĞŸǹäÆöä ğǨÔÕöä ĞƨÀĦţäş ·ğÆÅÆţäş ĞȽÏǹʐöä ğɍÀΣä Ž åÀΣä ɃʐÀöä ğÀDzèʐÅöä öäắ ĞƨÀĦɳ øƎǨ ʔȓÀţä žÀĦÅ ȷÜ Æʑ·ğắÀȝ ĞÏʐÀõ ȝÏÀèą [4] şÜ [3] ğÆɳ ɃÆÅøʐöä ā ƙÊÅǨǨʐÀɳɉÀæ Æɳɉä óşàÀǿʐõʐǬÏÓöä şÜ ɃÆÅøʐöä ā ƙÊÅǨǨʐÀɳɉÀæ óʐùÜ ğÆɳ ÀǰǬÅţä ğÀDzèʐÅöä öäÆæ ȷʐäÀÔţä (F *et al.,* 1990) ğắÀȝ ɃʐȽÀöä

(200 ɃʐȽÀöä óşàÀǿʐõäÀǬÅɍä ÀǰǬÅţä ğÀDzèʐÅöä öäắş àÆÅqä ȸɳ ȷʐǿÀĦÅ ÀȒÅÀɳ [27] ɄÛȝÜ ȸÅØöä ʔȓÀţä ÀȽǬèäş·ÀȚìÜ [6] ğÆɳ (ʔȓÀɳ [3] øö ÀÏɳʐÅ ɳɳ [400]ş ÀȒÅÀɳ [24] øö ÀÏɳʐÅ ɳɳ [3] ÀȚşÜş ÛÆÏDZ ŌÓÎæ ĞƨÀĦȽŸö ÀȒÅÀɳ [23] āÀDzǬèä ·ÀÏɳʐÅ ɳɳ [10] óşÀÅǬæ ƙʐÀì äşȜǬȝä (N *et al.,* 1992) ĞÏŸè ĞDzÏǬǿ ÆǵÀş ȒÅÀɳ ʔÛȝÜş ÛÀȚÏʐ ÀõʐÓÎɳ ǰəÀǬǿ ʔȓÀɳ ĞƨÀĦɳ ÛdzÀDzÅæş ÛäʐŸȽõÜ ȸÅØöäş – ÀǰǬÅţä ğÀDzèʐÅöä öäắş àÆÅqÀæ ƙæÀÔɳ ÀȒÅÀɳ [42] ɄÛȝÜ äʐÛȝÜ (ȴÊƨä ȷàş ȸɳ ɳõ/ɳɳ [15]) ÀȝʐĞèą [12] БÜ [4] ğÆɳ ā ƙÊÅǨǨʐÀɳɉÀæ (W *et* ĞÏʔÀɳ ǰəÀǬÅöä ǨǿÀõş ÛÈÓÅöä ȸɳ ĞÅęʐŸö (ÀÏɳʐÅ ƙǨÀɳ ɳɳ [200]) óşàÀǿʐõäÀǬÅɍä *al.,* 1993)

Ž óÀΣä ʐȽ ÀȽõş ÛȸÓö ÛāŸÓöä ÆÅȝ ĞÅÀÀè ôäÀȝÜ ÀȚŢǨ ·ğÀǿäʐÏΣä Ž ôÀţä ŌÓÎæ ôÀȽŸö Бşɉä ɄÊÅÀǬöä ŌÓÎöä (ʔÀÎÅ) ȴÀǬŸÅ · ôäÀȝÜ ȷşắ ʔşäÆĦöä ȴŢĦɳ ÛȷÀÊǿqä óÀȚèÜ ȸɳ ɄøǿÀĦǨş ğÀǰǬÅţä ğɍÀΣä Ž ÀŒäş āŸÓöä ÆÕÀǨ ·ÈŸÓǬöäş ȘÀĦȽǬöÀæ ÀĞÀÕǨ ȴəắ ·ÀȒÀÜ ĞÏȽÀŸöä ÆÕĦöä ȴÂȒǨş ĞÏöÀĦù ĞÀÆĞõ ĞɳÀÂì ÆȽÀÎǨ Æęş ÛȸɳÀɳ óÀĦèş ȴȚęş ÇÆǬÊɳ öäắ ôäÀȝÜ ·ɃÀÀÊöä ğÀDzèʐÅöä öäắ ÀǨäʐǨ ǪÏǵ ȸɳ āŸÓöä ÆĦæ ÙÛÕöä ɄøǨùǨ óʐò [7] ğÀȚşÜ ·ȴȚÕöäş ʔȽΣäş ÿäʐÅöäş ȷàʐöä ÆÕʐş ÿÆöä ÀÕʐ ·ɄȽ ɃÀȚä ÀǰǬÅţä ğÀDzèʐÅöä ĞæÀòÜ ÀǰõɉäɄȽ ÕęÜ şÜ ĞÀè ÀȽÀȽȝ ɄøǬöä ğäÀÀȚä ·ĞÀʐəø ğäæşØì ÀÛę [12] øÆÔö ĞÏȝÀĦì

[illegible] *et al.,*1989)

[illegible] (*Proechimys guyanesis*) [illegible]

[illegible]

[illegible]

[illegible] 1981) [illegible]

[illegible]

[illegible] et al., 1990) [illegible] 48 [illegible] 24 [illegible] 2 −1 [illegible]

[illegible]

[illegible] *et al.*, 1986) [illegible]

[illegible] $^{-3}$ [illegible]

[illegible]


Ajello, L. Comparative ecology of respiratory mycotic disease agents. *Bact Rev* 31:6–24, 1967.

Ajello, L., W. Kaplan. Systemic mycoses. In: Stoenner, H., W. Kaplan, M. Torten, eds. Section A, Vol 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1980.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Borelli, D. Prevalence of systemic mycoses in Latin America. In: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Clinkenbeard, K.D., R.L. Cowell, R.D. Tyler. Disseminated histoplasmosis in cats: 12 cases (1981–1986). *J Am Vet Med Assoc* 190:1445–1448, 1987.

Cole, C.R., R.L. Farrell, D.M. Chamberlain, *et al*. Histoplasmosis in animals. *J Am Vet Med Assoc* 122:471–473, 1953.

Conces, D.J., S.M. Stockberger, R.D. Tarver, I.J. Wheat. Disseminated histoplasmosis in AIDS: Findings on chest radiographs. *Am J Roentgenol* 160:15–19, 1993.

Coulanges, P. L'histoplasmose a grandes formes (*H. duboisii*) a Madagascar (A propos de 3 cas). *Arch Inst Pasteur Madagascar* 56:169–174, 1989.

González Menocal, I., M. Suárez Menéndez, L. Pérez González, J. Díaz Rodríguez. Estudio clínico-epidemiológico de un brote de histoplasmosis pulmonar en el Municipio de Morón. *Rev Cubana Hig Epidemiol* 28:179–183, 1990.

Hamilton, A.J., M.A. Bartholomew, L. Fenelon, *et al*. Preparation of monoclonal antibodies that differentiate between *Histoplasma capsulatum* variant *capsulatum* and *H. capsulatum* variant *duboisii*. *Trans Roy Soc Trop Med Hyg* 84:425–428, 1990.

Hoff, G.L., W.J. Bigler. The role of bats in the propagation and spread of histoplasmosis: A review. *J Wild Dis* 17:191–196, 1981.

Johnson, P.C., N. Khardori, A.F. Najjar, *et al*. Progressive disseminated histoplasmosis in patients with acquired immunodeficiency syndrome. *Am J Med* 85:152–158, 1988.

Kaplan, W. Epidemiology of the principal systemic mycoses of man and lower animals and the ecology of their etiologic agents. *J Am Vet Med Assoc* 163:1043–1047, 1973.

Loyd, J.E., R.M. Des Prez, R.A. Goodwin, Jr. *Histoplasma capsulatum*. In Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone Inc.; 1990.

Manson-Bahr, P.E.C., F.I.C. Apted. *Manson's Tropical Diseases*. 18th ed. London: Baillière-Tindall; 1982.

Menges, R.W., R.T. Habermann, L.A. Selby, H.R. Ellis, R.F. Behlow, C.D. Smith. A review and recent findings of histoplasmosis in animals. *Vet Med* 58:334–338, 1963.

Miranda Novales, M.G., F. Solórzano Santos, H. Díaz Ponce, *et al*. Histoplasmosis diseminada en pediatría. *Bol Med Hosp Infant Mex* 50:272–275, 1993.

Negroni, P. *Histoplasmosis: Diagnosis and Treatment*. Springfield: Thomas; 1965.

Negroni, P. *Micosis cutáneas y viscerales*. 5.ª ed. Buenos Aires: López; 1972.

Negroni, R., A. Taborda, A.M. Robles, A. Archevala. Itraconazole in the treatment of histoplasmosis associated with AIDS. *Mycoses* 35:281–287, 1992.

Organización Panamericana de la Salud (OPS). Histoplasmosis en México, 1979–1980. *Bol Epidemiol* 2:12–13, 1981.

Sanger, V.L. Histoplasmosis. In: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Schlech, W.F., L.J. Wheat, J.L. Ho, M.L.V. French, R.J. Weeks, R.B. Kohler, *et al*. Recurrent urban histoplasmosis, Indianapolis, Indiana. 1980–1981. *Am J Epidemiol* 118:301–302, 1983.

Selby, L.A. Histoplasmosis. In: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Sweany, H.C., ed. *Histoplasmosis*. Springfield, Illinois: Thomas; 1960.

Waldman, R.J., A.C. England, R. Tauxe, T. Kline, R.J. Weeks, L.A. Ajello, *et al*. A winter outbreak of acute histoplasmosis in northern Michigan. *Am J Epidemiol* 117:68–75, 1983.

Wheat, J., R. Hafner, M. Wulfsohn, *et al*. Prevention of relapse of histoplasmosis with itraconazole in patients with acquired immunodeficiency syndrome. The National Institute of Allergy and Infectious Diseases. Clinical Trials and Mycoses Study Group Collaborators. *Ann Intern Med* 118:610–616, 1993.

Wheat, L.J., R.B. Kohler, R.P. Tewari. Diagnosis of disseminated histoplasmosis by detection of *Histoplasma capsulatum* antigen in serum and urine specimens. *N Engl J Med* 314:83–88, 1986.

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## MYCETOMA ăþƯƻǁɛ !þǋǁɛ

**ǀƑĭɣǮǀǁƑƓ !þǋƗǁɛ B47.1 ÛƕĭƸĭƸƟǁɛ ǀƑĭþƯƻǁƑƓ ăþƯƻǁɛ !þǋǁɛ B47.0 ICD-10**

**ICD-10 B47.0 eumycetoma; B47.1 actinomycetoma**

ǈDZÅÄöä ƀÄÛÅöä ÿøƺöä ÛǦÅøşåÅƫä ÿÆÕöä ÛŇ ƀøşåÅƫä øÅÛÅöä ˙ğÅƺåäÄƫä ·ğÅĦĦĨöÅæ ÿøƺǪöä ÛǦĒÖĒÖΣä ğÅÄÄÛÅöä ȸȝ ǈDZÅÄöä ƀÄÛÅöä ÿøƺöä ÛƀøşåÅƫä øÅÛÅöä ȸȝ ƀÄÛÅöä ÿøƺöä) ğÅÄÄÛÅöä ȸŋ ǥǨǯõ ţäƺǫǕ ȸȝ ǦÄÄÛÅöä ÿäøşɟä ǈDzÅǩ Æę ˙ğÅǦǦÊöä ƀÄÛÅöä ÿøƺŸö ǦĒÊĿəÄöä ŌŋåƺȞöä ·(ğÅĦĦĨöÅæ ÿøƺǪöä) ǦĒŋƺǫÄDZ Ōŋåƺȝ şǕ Û(ǦĒÖĒÖΣä øƺÛÅöÅæ *ǦǙøşåÅƫäş Madurella mycetomatis ǦĒŋşÄÛÅöä ǦǙøşåÅƫä* ɄȽ ǦĒÖĒÖΣä ğÅÄÛÅöÅæ *Leptosphaeria Senegalensis ǦĒöÅŝÆÊöä ǦÕĒęÄöä ǥåşåÄÓöäş M. grisea ǦĒäÅDzÆÊöä*

*Pseudallescheria boydii* [illegible] *Acremonium* [illegible] (*Petriellidium* [illegible]*llescheria* [illegible]) [illegible] *Exophiala Jeanselmei* [illegible] *Nocardia* [illegible] *otitidiscariarum* [illegible] *astroides* [illegible] *A.* [illegible] *actinomadura madurae* [illegible] *streptomyces* [illegible] *Pelletieri* *cochliolobus spicifer* [illegible] *Curvularia geniculata* [illegible]

[illegible]

[illegible] (1990) [illegible]

[illegible] 1231 [illegible]

[illegible] *et al.*, 1988) [illegible]
[illegible] 1944 [illegible] 154 [illegible] 1982)
[illegible] 1978 [illegible] (14) [illegible]

[illegible]

[illegible] 1990) [illegible]

[illegible]

ǦÀÀÛÀöä ÿäøȘɉä ĘǤÊǩ Àɳ ǨǨǨõ ·ǦÀåζǦöä ǦäæÀÒöä ǦÀÀÒÊŸöä ɄȽ ǦÈÖÈÖΣä ğÀÀÀÛÀöÀæ ɃÀÛÀöä
ȘǕ ȐǤǤţäȘ ɭǵÀöä ȯÀÔÀQèä ȝɳ ĘζäÀQöÀæ āŸÒöä Ž ȸÛǦöä Ōṅäå ʔȘäÆȞöä ǨÀöȘ ·dzζȓÀæ
ōäÀȝɉä øζȚȘ ȸɳ ƙQÀè ŌǤȩ ǨǭÆǵ ǦǵäÀǱ ȝɳ ÛȸÛǦöä ǴQζ Ƃǚ ʔåǕ Ʉǵäǅ ȯÀÔÀQèä
ǵÆȄÖȞæ ǵåÀȝ ǕÆǤǩȘ ·ÀÎǤöä ÆÀȝ ɄøQöä ŌŸQö ǦöÀÎɳ ğÀøäζȄΣä Ž ǵÆȽÀÎţä ğÀζǿä ·ǦÀÀÀÊöä
ǰÊÀöä āÀơȘ ĘȶȝǕ ǴǤÔǩ ÆȩȘ ğäζÀè ȘǕ ÀȚìǕ ȯŸǹ ǨǨƶøÆǩ ζȶÀǩȘ ÆŸƨä ǨƠ ǵǨ8ò

.(ǨǨ1987 ) ǦÀÛǤQÊţä

ȸȝ ǦƤÀφ ʔÀṅǕ ǦǤÆȝ ğɼÀǵȘ Ǩǩ ǦǤφÀöä øÀÛζ ȸɳ ğɼÀǵ ǨÀöȘ

.(ǨǨ et al.,1989) āŸÒöäȘ ŌȄÁŸö ǦζÀȓǕ ÛɉÀÊφqä Ž ǦÀåζǦöä ǦäæÀÒöä ǦÀÀÒÊŸöä

·øÀȒɩäȘ ǦäÀQöä Ž ǦɳÀɳø ōÀţä äØT ǦǤǤÊöä ŌɳäζȞöä ːȯÀÖQφɼä äÀüȘ ʔȘÆȞöä øÆÔɳ
ɉζÒǩ Æȩ ·dzȘÀƨä ȯŸṅ ȸɳ ğÀøäζȄΣäȘ ɉÀÊφqä ÆÀȝ ÆŸƨä ǨƠ ǰÊÀöä ƂǕ ÀÛÀöä ŌṅÆÀ
ÆȞæ dzȘÀƨä ȸɳ ğɼÀǵ ōÀÀȽ ːğÀøäζȄΣä Ž ·ʔȘÆȞŸö ÀɩÀǤţä øÆÔţä ǦǭζţäÀÀȚÎöäȘ ōäζìɉä
·ǦÀåζǦöä ǦäæÀÒöä ǦÀÀÒÊŸöÀæ ğÆȞφä ɄøQöäȘ Ǧǵäƨä

·ÆǱζÀ ɼ ːōÀţä ğÀȄÀæȘ Ž ğÀøäζȄΣä øȘå

ğÀǤǤǵ ȧÀÀÀ ɉǕ ǦȝÂṅ ȘǕ ǦüÀÎõ ȸɳ ǵåÀţ ȘǕ ǴȄŸö ɃÀȚÖä ȌȞÀŸö ȸÒζ ːȌȄÁÎQöä
·(ğÀÀåøÀõζÀöä öäå) ğÀǨǨÎöÀæ ÿøζQöä ğÀǤǤǵ ȸȝ ǦÈÖÈÖΣä ğÀÀÀÛÀöÀæ ɃÀÛÀöä ÿøζöä
ğÀǤǤΣ ƙÊÀǱ ˉ ƙQÊÆÆÀȄö Ǜèȩ Ōǯɳ ğÀǤÀQÊɳ Ž åäÀÀQèɼä ȯŸṅ ȸɳ ŌɳÀȞöä ȣÀȞQÊÀ
øÀȡǕ ÿÆÁQÊÀ ·ǦÈÖÈÖΣä ğÀÀÀÛÀöÀæ ɃÀÛÀöä ÿøζöä ğÀǤǤΣ Ƀζɳ Æöä øÀȡǿäȘ Ûğ ÀǨǨÎöÀæ ÿøζQöä
ȄǤöȘ ǦȝÂɩä ǵåÀɳ ÿäÆÁQèä øǤȝ ·ɭǤǭÀǱŸö ǵåÀȒţä ǦÀζǤΣä ğäåÀȒţÀæ ɃζφÀǯöä ţøÂŸö ȘøζæÀè
Ǧȶ ÒΣä ȸɳ ·ǨǨ1990) ŌÔÀÀɳ ŌÒÎæ ğÀǤǤΣä ʡŸȝ ȯζÔȞŸö ǨèäζÀöä ȸɳ ǵåÀɳ
·ǦȞȄȞÔöä ǦƨÀȞţä ȸȶȒQö ǦÀŸQÁţä ǦÀȘåÀqö ŌɳÀȞöä ǦÈèÀÊǵ ÆÀÆƠ

ǯæÀȶÀöä ȸɳ 78 øö ɄȝζQ ȌȄÁÎǩ ƂǕ Ōòζöä Ź ɉäåζÊöä Ž ǨÀÀǱǕ ǦèäøǾ Ž

ǨǨM ɄȝÀţä øÀÎQɼÀæ ğɼÀΣä ȸɳ 82 øöȘ ǦȄǱζöζQÊȄǨä ȧÀÛöä ÿäÆÁQèÀæ
·ǨǨǱ ɭȚɳ ɄǱζöȘƘÊöä øÀȄQṅŸö ɃøäøØöä øÀȄQṅä ·1975)

·öäØΣä ȄǤŸæ ʔȘÆȞöä ÆÀǱζQÀ ɉǕ ɉÀÊφȐö ȸÒζ ːǦȞζÀÒţä

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Brodey, R.S., H.F. Schryver, M.J. Deubler, W. Kaplan, L. Ajello. Mycetoma in a dog. *J Am Vet Med Assoc* 151:442–451, 1967.

Conant, N.F. Medical mycology. *In*: Dubos, R.J., J.G. Hirsch, eds. *Bacterial and Clinical Mycology*. 2nd ed. Philadelphia: Saunders; 1963.

Conant, N.F. Medical mycology. *In*: Dubos, R.J., J.G. Hirsch, eds. *Bacterial and Mycotic Infections of Man*. 4th ed. Philadelphia: Lippincott; 1965.

Develoux, M., J. Audoin, J. Tregner, *et al*. Mycetoma in the Republic of Niger: Clinical features and epidemiology. *Am J Med Trop Hyg* 38:386–390, 1988.

Friedman, D., J.V. Schuster, J.P. Pickett, *et al*. *Pseudallescheria boydii* keratomycosis in a horse. *J Am Vet Med Assoc* 195:616–618, 1989.

Jang, S.S., J.A. Popp. Eumycotic mycetoma in a dog caused by *Allescheria boydii*. *J Am Vet Med Assoc* 157:1071–1076, 1970.

Mahgoub, E.S. Serologic diagnosis of mycetoma. *In*: Pan American Health Organization. *Proceedings of the Third International Conference on the Mycoses*. Washington, D.C.: PAHO; 1975. (Scientific Publication 304).

Mahgoub, E.S. Agents of mycetoma. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone Inc.; 1990.

Manson-Bahr, P.E.C., F.I.C. Apted. *Manson's Tropical Diseases*. 18th ed. London: Baillière-Tindall; 1982.

McEntee, M. Eumycotic mycetoma: Review and report of a cutaneous lesion caused by *Pseudallescheria boydii* in a horse. *J Am Vet Med Assoc* 191:1459–1461, 1987.

Segretain, G., F. Mariat. Mycetoma. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.


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## PROTOTHECOSIS

*Prototheca* $^{16-2}$ *zopfii* *wickerhamii*

202 … 30 … (1983) …

… et al., 1984) … 90 … 32 …

… 1982 … 400 … et al., 1987 … 1984 … et al., 1985) … 120 … 17 … 5 … 192 … 10 … et al., 1997) … 130 …

… (1978) …

[illegible] et [illegible] al., 1987) [illegible] et al., 1984) [illegible]

[illegible] (1978 [illegible])

[illegible] et al., 1988) [illegible] *Salmonis* [illegible] (1977) [illegible] et al., 1988) [illegible]

[illegible] 9 [illegible] 5 [illegible] 8 [illegible] 7 [illegible] (1978 [illegible]) [illegible] 94 [illegible]

[illegible] (1988) [illegible] 190 [illegible] (253) 48 [illegible] [illegible]

[illegible]

[illegible]

## [illegible]


Anderson, K.L., R.L. Walker. Sources of *Prototheca* spp. in a dairy herd environment. *J Am Vet Med Assoc* 193:553–556, 1988.

Dillberger, J.E., B. Homer, D. Daubert, N.H. Altman. Protothecosis in two cats. *J Am Vet Med Assoc* 192:1557–1559, 1988.

Gentles, J.C., P.M. Bond. Protothecosis of Atlantic salmon. *Sabouraudia* 15: 133–139, 1977.

Hodges, R.T., J.T.S. Holland, F.J.A. Neilson, N.M. Wallace. *Prototheca zopfii* mastitis in a herd of dairy cows. *N Z Vet J* 33:108–111, 1985.

Jones, J.W., H.W. McFadden, F.W. Chandler, W. Kaplan, D.H. Conner. Green algal infection in a human. *Am J Clin Pathol* 80:102–107, 1983.

Kaplan, W. Protothecosis and infections caused by morphologically similar green algae. *In:* Pan American Health Organization. *Proceedings of the Fourth International Conference on Mycoses: The Black and White Yeasts.* Washington, D.C.: PAHO; 1978. (Scientific Publication 356).

Kaplan, W., F.W. Chandler, C. Choudary, P.K. Ramachandran. Disseminated unicellular green algal infection in two sheep in India. *Am J Trop Med Hyg* 32:405–411, 1983.

Mayberry, D. Colorless alga can pollute water, cause mastitis. *Agri Res* March: 4–5, 1984. Cited in: Pore, R.S., *et al.* Occurrence of *Prototheca zopfii*, a mastitis pathogen, in milk. *Vet Microbiol* 15:315–323, 1987.

McDonald, J.S., J.L. Richard, N.F. Cheville. Natural and experimental bovine intramammary infection with *Prototheca zopfii*. *Am J Vet Res* 45:592–595, 1984.

Pore, R.S., T.A. Shahan, M.D. Pore, R. Blauwiekel. Occurrence of *Prototheca zopfii*, a mastitis pathogen, in milk. *Vet Microbiol* 15:315–323, 1987.

Rogers, R.J., M.D. Connole, J. Norton, A. Thomas, P.W. Ladds, J. Dickson. Lymphadenitis of cattle due to infection with green algae. *J Comp Pathol* 90:1–9, 1980.

# RHINOSPORIDIOSIS [illegible]

## ICD10 B48.1

[illegible] *Rhinosporidium* [illegible]

[illegible] 1970 [illegible] 66) [illegible] 108 [illegible] (1970) (13) [illegible] (13) [illegible] 50 [illegible] 5 [illegible] 30 [illegible] 4 [illegible] (1983) [illegible] 91000 [illegible] (1986 – 1948) [illegible] (1936) 33 [illegible] 72 [illegible] 1000 [illegible] *et al.,*1989)

[illegible] 30 [illegible] (1984)

[illegible] (1991) [illegible] 90 [illegible] 24 [illegible]

.1989)

et al., 1993)

## ÜøШƐƥøDŽǁƐ


Ajello, L., L.K. Georg, W. Kaplan, L. Kaufman. *Laboratory Manual for Medical Mycology*. Washington, D.C.: U.S. Government Printing Office; 1963. (Public Health Service Publication 994).

Carter, G.R., M.M. Chengappa. *Essentials of Veterinary Bacteriology and Mycology*. 4th ed. Philadelphia: Lea & Febiger; 1991.

Job, A., S. VanKateswaran, M. Mathan, *et al.* Medical therapy of rhinosporidiosis with dapsone. *J Laryngol Otol* 107:809–812, 1993.

Luciani, C.A. H.O. Toledo. *Rhinosporidium seeberi* en bovinos criollos (*Bos taurus*). *Vet Arg* 6(57):451–455, 1989.

Mahapatra, L.N. Rhinosporidiosis. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Mayorga, R. Prevalence of subcutaneous mycoses in Latin America. *In*: Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Moreira Díaz, E.E., B. Milán Batista, C.E. Mayor González, H. Yokoyama. Rinosporidiosis: estudio de 33 casos diagnosticados por biopsias en el Hospital Central de Maputo, desde 1944 hasta 1986. *Rev Cubana Med Trop* 41:461–472, 1989.

Negroni, P. *Micosis cutáneas y viscerales*. 5.ª ed. Buenos Aires: López; 1972.

Raju, G.C., M.H. Jamalabadi. Rhinosporidiosis in Trinidad. *Trop Geogr Med* 35: 257–258, 1983.

Sauerteig, E.M. Rhinosporidiosis in Barinas, Venezuela. *In*: Pan American Health Organization. *Proceedings of the Fifth International Conference on the Mycoses: Superficial, Cutaneous, and Subcutaneous Infections*. Washington, D.C.: PAHO; 1980. (Scientific Publication 396).

Utz, J.P. The mycoses. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.


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# SPOROTRICHOSIS ƕƷǋǤǄǁƐ ǀƑǐƥƴƪǁƐ ƅƐǫ

**ƕƷǋǤǄǁƐ ǀƑǐƥƴƪǁƐ ƅƐǫ B42.1 ǎǋǝƥǁƐ ƕƷǋǤǄǁƐ ǀƑǐƥƴƪǁƐ ƅƐǫ B42.0 ICD-10**

**DŽDŽ ǌƥƍǫƈ üƑǀƪƈ B42.0 ÜƥƙǂǆDŽǁƐ ƕƷǋǤǄǁƐ ǀƑǐƥƴƪǁƐ ƅƐǫ B42.7 ÜǎǫǂШǁƐ ǏƻDŽǂǁƐ**

**ƕƷǋǤǄǁƐ ǀƑǐƥƴƪǁƐ ƅƐǫ**

**ICD-10 B42.0 pulmonary sporotrichosis; B42.1 lymphocutaneous sporotrichosis; B42.7 disseminated sporotrichosis; B42.8 other forms of sporotrichosis**

Ž ÌĦǺ ÿÌŋǿ ÀÛǯ ŒĻş Û*Sporothrix schenckii* ǦÒĀÎöä Ǧǭǯǥǰ ǦĀǞÎöä : ğÄǤǤÊöä

ÛƙŸÒÌ şǽ ÀÛǯ ǦÖĀÎöä Ǧǭǯǥǰ ǦĀǞÎöä ·ǅ ǦĀǞöä Ǩäǯǟäş ǼÎƪäş ǦæÀǪöä

[illegible] 37 [illegible]

[illegible]

[illegible] 3000 [illegible] (1983) [illegible] 84 [illegible] 1988 [illegible] 15 [illegible] 53 [illegible] *et al.*, 1992 [illegible] *et al.*, 1979) 1975–1971 [illegible] *Ceratocystis stenceras* [illegible] *et al.*, 1979) [illegible]

[illegible]

ŌÒÎöä ·ÀƬìǚ 3 Бǚ ʒǏäÀèǚ 3 ƙǣ dzşäÀǬΛ ȷǚ ǦφÀȒΣä øşǼö ȸǑɀ ·ȷÀÊφqä Ž ϙşǼΣä ǼŸƨä āÀơ ȷÀǑŋ
gÀǯǣ şǚ gǼǾǑĤǣ ǕǼǤΛ ·ɃǼŸƨä ŌÒÎöä ɀȽ ǏʒɀǏì ÀǯõɟäɃÀΛÀÊöä ʔşǼǨöä ʔǑǦk Ǽȩ ·ǦɀɀÎǑţä ȣäÀùɟä ʔŸʒ gåÀʒ ǦĤȑɀŋ ǦǏÊǏəÀöä Ǧɀǿä ·ǴǏǑŸǬöÀǣ ǴȾÊΛ ǬǏǵ
ǦǏÀȾŸöä ǼǑĤöä òɀù ʔŸʒ ǼŸƨä ǨƠ ğäǼǏǑʒ БǚɃåǘkş ÀÎǬÀk Ǽȩ şǚ ÛòɀǹǼöä ȷÀǑŋ gåşǼƮ ǦŋÀĤöä ǦǏǶÔöä ǦöÀΣä ·ÀÀÔŋ şǚ ɃåÀŋø ǴǏȩ ÀƬȚΛ Ǽȩş ğäǼǏǑĤöä dzÀǑǬk Ǽȩ ·ǦȾÅȒǬţä
·ǏȒΛǚ ǦǏŋåǚş ǦΛǼŸǄƵş ǦǏòɀöúǬş ǦǏkÀǤφǚ òÀÒìǚ ǏȒΛǚ õÀǼȽ·gåÀʒ gÀǬúǬŋ Ƙɖ ȐΛÀȾŸö ǇȚĤöä ǦòÀǹ ÛǦÀŸǬƯ òÀȒʒǚ Ž ğÀĤȑɀk Бǚ ÛgøåÀφ ɄȽş ÛgÀǯǬΛţä òÀÒìɟä Ƀåúk
ǨƠ ǰǏÊΛöäş ƙǬǏŸǑöäş Ɀφɟäş ǇÀöä Бǚ ǦɀÀȓǚ (ǦΛǼŸƵ ǯøÀǹ òÀÒìɟä ȸŋ 80) ÕòÀΛţäş ƙφǼĤţä ȸŋ ȔǑɀ 5 ǼΛʒ ǦǏʒɀȾƒ ʔşäǼʒ ğÀƬş ·ǇÊƨä ȸŋ ǦĤèäş ȨùÀΛŋ àɀɀ ǼŸƨä
ÛɃǼŸƨä Ǧɖɀǥţä ğÀΛÀĤÎöä õäå äɀÛǑǬöä ǑÅì 3000 ȸŋ ÀǯõǚƙǣȸŋʊȸΛǼĤǬöÀǣ ƙŸŋÀĤöä)
ȷǚ ƙǯǵÀǤöä ȐĤǣ ǰǬΛèä ·(1962) ǇƬΛŋ ǼǵäşɃǚ ǼΛʒɃɀəÀöä ŌÒÎöä ÀƬȚΛ Ɓş
ǼǑǬĤΛ ÀȾǼǣ ÛǼŸƨä ʔŸʒ ǴǏǑŸǬöä ʒȑɀŋ ȸŋ ɄÀȾŸöä äÀƬƨä şǚ ÿǼöä ʔÀƒ ǦùÀèɀǣ ϙǼƷ øÀǯǬφɍä
·(ǦȾƬǬţä) ǦöşúÊţä ɄȽ ƙǬəÀöä Ž ǦǏöşɟä gøúǦöä ȷǚ ȷşÀǹǚ
Ǽȩ·ÀÛÀöä àÀÎǬèä ǼΛʒ – õÀţä ȸŋ øåÀφ ŌÒì – ɃɀəÀöä Ǧɖɀǥţä ğÀΛÀĤÎöä õäå ǇDzΛΛ
åǼʒ ȷɀǑΛ ȷǚ ŌȾǬɟä ȸŋ ·ŌÊöä ʒŋ ȔŸǬƩ Ǽȩş ȸŋÀŋ gåÀĤöä Ž ȼÀǑò ÛǏäÀǵ ȼȩÀÊŋ ȷɀǑΛ
ɄøǦǏÊǏÊţä ÀƬΛö ǦȒÀǬŋ ğÀɍş Ž ʔȑÀţä ǇƬĤŋ ÌǏĤΛş Û90 ȸŋ ŌȩǚǦɀɀòɀţä ğɍÀΣä
·ǦǏöɀǶÔöäş ŌÊöä Ōǯŋ ǦΛǏɀå õäÀŋǚ ǇƬΛŋ ƘǯǑöä ʔǼöş ÛgǼĤǶǬţä ğÀɍɀöä Ž ɃøɀÊǏǤţä ÀŒş
Ɓɟäş ÈÀΛöä ȨǏȑş (59) ʒÎǑǬöäş (60) òÀĤÊöä ɄȽ ǏʒɀǏì Àǯõɟä õäÀʒɟä
Ž ƵǏÀǹ ţÀÀǩöäş ǢĤǬöäş ȷäɀöä Ǽǿɀ ȸŋ ʔȑÀţä ɄǑǬÎΛ Àŋ ǏƘǯõ ·ÿǼöä ǬÀφş ɄøǦΛƨä
gøɀÔöä ÀƬȚǩşÛɃɀŸĤöä ǑÀöä Ž ƙǬəÀöä Ž ǏÀkäɀǩ Àǯõɟä Ǧɀǿä ϙǼƠ ·ǇÊƨä gøäÀǵ ǦDzøå
·(1966) ǦǏΛǬŋ (1) ğÀɀÀǯǑǣ ǏùÀƮ ǏÀƬǑǩ ǦǏʒÀĤÎöä
ğɍÀΣä Ǩƨɀʒ ÀȾǼǣ ·ɃǼŸƨä ŌÒÎöä ǦƨÀĤţ ɃɀȾÀöä ÿɀǏèÀkɀǤöä ǼΛåɀΛ ÿǼÅǬÊΛ Ǽȩ
şǚ ÛdzÀDzΛǣ (1) òşäÀφɀõäÀǬΛqäş (K) òşäÀΛǼõɀǬǏǑöÀǣ ǼŸƨä ǯøÀǹ
ǦƨÀĤţä ǢŸÛǑǬk ·ǼΛǼDZ ɃɀȾɀ (F) òşäÀΛÀk ɀȽş (P) òşäÀφɀõƘǣÀÊöÀǣ
(F) *et al.,* ǏÀƬì 35 gÀǬÀö ǏɀŋɀΛ ŋŋ 200 – 100 ȸŋ ǦʒÀDZ ƘǹɟäğÀΛÀÛÀöä åÀȒŋ

.1992)

[illegible]

[illegible] *H. Farcinminosus* [illegible] .(*Cryptococcus* [illegible]) [illegible]

[illegible] 4 [illegible] 5 [illegible] *et al.,* 1990) [illegible] *et al.,* 1989) [illegible] *et* [illegible] *et al.,* 1989) [illegible] .*al.,* 1986) [illegible]

[illegible]

[illegible] 53 [illegible] 24 [illegible] 20 [illegible] 6 [illegible] 58 [illegible] et al., 1979)

[illegible]

19 [illegible] 9 [illegible] 12 [illegible] 19 [illegible] et al., 1986) [illegible]

[illegible]

[illegible]

[illegible]

[illegible] (1986) [illegible]

[illegible]

## [illegible]


Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals.* 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Benenson, A.S., ed. *Control of Communicable Diseases in Man.* 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals.* 6th ed. Ithaca, New York: Comstock; 1973.

Coles, F.B., A. Schuchat, J.R. Hibbs, *et al.* A multistate outbreak of sporotrichosis associated with sphagnum moss. *Am J Epidemiol* 136:475–487, 1992.

Dunstan, R.W., K.A. Reimann, R.F. Langham. Feline sporotrichosis. Zoonosis update. *J Am Vet Med Assoc* 189:880–883, 1986.

Franco, L., I. Gómez, A. Restrepo. Saperconazole in the treatment of systemic and subcutaneous mycoses. *Int J Dermatol* 31:725–729, 1992.

Haqvi, S.H., P. Becherer, S. Gudipati. Ketoconazole treatment of a family with zoonotic sporotrichosis. *Scand J Infect Dis* 25:543–545, 1993.

Larsson, C.E., M.A. Goncalves, V.C. Araujo, *et al.* Esporotricosis felina: aspectos clínicos e zoonóticos. *Rev Inst Med Trop Sao Paulo* 31:351–358, 1989.

Lima, L.B., A.C. Pereira, Jr. Esprotricose-Inquerito epidemiológico. Importancia como doença profissional. *An Bras Dermatol* 56:243–248, 1981.

Lurie, H.I. Five unusual cases of sporotrichosis from South Africa showing lesions in muscles, bones, and viscera. *Br J Surg* 50:585–591, 1962.

Mackinnon, J.E. Ecology and epidemiology of sporotrichosis. *In:* Pan American Health Organization. *Proceedings: International Symposium on Mycoses.* Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Mayorga, R., A. Cáceres, C. Toriello, G. Gutiérrez, O. Álvarez, M.E. Ramírez, *et al.* Investigación de una zona endémica de esporotricosis en la región de la laguna de Ayarza, Guatemala. *Bol Oficina Sanit Panam* 87:20–34, 1979.

Mitchell, T.G. Micosis subcutáneas. *In:* Joklik, W.K., H.P. Willet, D.B. Amos, eds. *Zinsser Microbiología.* 17.ª ed. Buenos Aires: Editorial Médica Panamericana; 1983.

Negroni, B. *Micosis cutáneas y viscerales.* 5.ª ed. Buenos Aires; López; 1972.

Pluss, J.L., S.M. Opal. Pulmonary sporotrichosis: Review of treatment and outcome. *Medicine* 65:143–153, 1986.

Reed, K.D., F.M. Moore, G.E. Geiger, M.E. Stemper. Zoonotic transmission of sporotrichosis: Case report and review. *Clin Infect Dis* 16:384–387, 1993.

Richard, J.L. Sporotrichosis. In: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Zamri-Saad, M., T.S. Salmiyah, S. Jasni, *et al*. Feline sporotrichosis: An increasingly important zoonotic disease in Malaysia. *Vet Rec* 127:480, 1990.

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# ZYGOMYCOSIS

**B46.1 mucormycosis B46.0 ICD-10 B46.1 B46.2 B46.1 B46.1**

**ICD-10 B46.0 pulmonary mucormycosis; B46.1 chinocerebral mucormycosis; B46.2 gastrointestinal mucormycosis; B46.3 cutaneous mucormycosis; B46.4 disseminated mucormycosis; B46.8 other zygomycoses**

*Zygomycetes* *Mucorales* *Entomophthorales*

(1982)

(1991)

[illegible]

[illegible] 1990) [illegible]

[illegible] 170 [illegible] 1980 [illegible] 1966 [illegible] 730 [illegible] *Basidiobolus haptosporus* [illegible] 75 [illegible] 112 [illegible] 1975 [illegible] *et al.*, 1980) [illegible] 1982) [illegible] *Conidiobolus*

[illegible] 3 [illegible] 700 [illegible] 55 [illegible] *incongruens* [illegible] *et al.*, 1992) *Entomophthorales*

[illegible] *et al.*,1982) [illegible]

[illegible] *mucoir* [illegible] *Absidia* [illegible] *Rhizomucor* [illegible] *Cunninghamella* [illegible] *Rhizopus* [illegible]

[illegible] *et* [illegible] 185 [illegible] *al.*,1989)

(1990)

et al., 1984)

et al., 1980) (1979)

incongrueus

coronatus

(1982)

10 38 692 45 (1947)

ȸÒƩ ÀȴÕ ·F et al., 1992) êÀÒöä ʔøȹȿ Ǭǯŋ ÛȐ ɄÌÀÒöä ôÀȴĦÝö ǦɆÀÔÀţäȿ ǦɆÕÀøÀÊţäȿ ǦɆǦÔÕöä ÆÕĦöäȿ ǦɆÀȹɟä ȣäȥDZɟä Ž ÆDZȥǩ ɉÜ ǦɆÌÀţä Ž ğÀȥɈö ÀȴȚŋ ÀǦǦè ɉäÆÝǦöä ȒĦä Ž ğÀÀÀÛÀöä ȻØȽ ŌÒÎǩ ·(1991)

¾ ȸʒ ǦöȿûÊŋ ɆǪĦǩ ʔȴȚĦöä ÀɆȹÀÛÀÀä ɄÀȥ Û(øÀÛÀöä ȸʒ ǦƤÀÀöä) ǦÀøÀÛÀöä ğÀȓÀȚDZȐö ·% ȸʒ äÆÀÝÀäȥɆȹ Žȿ ğÀÀÀÛÀöä ȸʒ ǦƤÀÀöä ğÀȓÀȚDZɋä ȸʒ ǦɆǦǵ ȳäøȿÜ ǬɆÒÎǩ ÆǦÊÀ ʒȓȥŋ ȸŋÂŋ ôÀŋ ŌÒÌ ɄȥÂöä øÀÛÀöä ØǹüÀ ·ŌɆɿä Ž ÀɆöäÀǪèÜ Ž ɄȥÂöä øÀÛÀöä ȸŋ ǦöÀǵ 266 ʔÝʒ ǦÀÀÀè Ǧèäøǻ ǨÀÀDZÜ ·ȣäÀùɟä ʔÝʒ ǦÀÆÝDZ

·ǦÝÝÒţä ğɆȣǪÊţä ¾ ȿ ǦǦÌÀÀöä ǦȴʒÆǪÊţä Ȍơ ¼ ɉÜ ğÆDZȿȿ ÛǦÀøäÆţä ǬÒÎä (ranarum ǦɆʒÆÀȒöä) ǦǦÌÀÀöä ǦȴʒÆǪÊţä ȸʒ ȽDZÀÀöä ôÀţä Ž ğÀȥɇä ğÆDZȿ Ž ǦÝÝÒţä ğɆȣǪÊţä ȸʒ ǦƤÀÀöä ğÀȥɇä ǨĦȓȥǩ ·ÈÒĦöä ʔÝʒȿ ·¢DZȥöäȿ ţØɛä Ž ɄÊɆəø ÆɆɛä ôÀŋȿ ǦÀȥəÀöä ʔȿÆĦöä ğÀõä ·F 1982) ǦɆÀȹɟä ǦɆǵÀÀöä

·ÀȒÀÜ ǬɆɿä Ž ǦÀøÀÛÀöä ğÀȓÀȚDZɋä ȒĦäȿ ǦɆʒȥȴÒä ʔȿÆĦöäȿ ª ɄÕÝΣä ğÀȹäȥɆΣ ä Ž ȿÆǦÀȿ ÛɃÆĦŋ dzÀÕǩ БÜ (ÀÀÂøÀɿä Æöȿ) î ȥÀɿä ÆÀʒ ɄȥÂöä øÀÛÀöä ɃáüÀ ğÀɆȥȥöä ȒĦäȿ ȣÀÀDzǪöäȿ öÀȚèɋä ʒŋ öÀȚĦŋɟäȿ ğÆĦţä āÀȚǪöä Àõä ·ğÀǯǪÀŋ ʔȿÆĦõ ǦȣöÀǦöä ɄȥÂöä øÀÛÀöä ÀȽÀȚǪÀ ·R et al., 1987) ǦĦɆȓÀöä ÀÀäÀÀɿä ÆÀʒ ɄȥÂöä øÀÛÀöä БÜ ğȿÂĦţä ·ǦɆÀÛǦöä ǦɆȓȥΣä öÀȒʒɟä Žȿ ǦɆÕÀøÀÊţäȿ ǦÀȥÎΣäȿ ŌÀöä Ǩơ ÆÕĦöä Ž ǦɆǦɆǵ ȳäøȿüõ ÀǯǪÀţä ǦŋøȥǪŋ ǦɆÒȥ Ǩơ ǦɆÀţ ÆÕʒ ǦǪÝǪ ɉÀĦÛȩ Ž ŋõ 80–50 ƙä ɉÀǩ ğÀȹäȥɆǵ ÆÀʒ ğÆDZȿ

·ß et al., 1985) ÀȚÀŋ ǦǪÝǪ Ž ğȥţä ÆĦä ɄʒȥȴÒä øÀǯǪȹɍä ǨǦǪÜ Æȩȿ ÛɆÆDZ ³ öÝǹ ÀȚÀŋ āÜø ⁷⁰⁰ ğȥŋ БÜ ʔáÜ Àư ÛÀɆöäÀǪèÜ Ž ȳÀÀȡǪǒ ǦʒøÂŋ ⁵² Ž öÀäȿ ǫÆǵ БÜ ȸÀÀÅÀţä ȸŋ ÆǪƩ ¢DZȥöä Ž ǴȓÀȿ ÀȿÀÀǪŋ ɍ ȳøȥǩ ǦäÀÔţä ğÀȹäȥɆΣä ʔÆö ɉÀõ ·ÀȚÌÌÜ ÀÀÂȡ ɃȥŋáɈɆƱȿ ûȥĦÝŋ ÈÀȹ ĘɆȓ ʒŋ ǦɆȚÎöä ğÆȩÀȥ ǦǦÀǪÒŋ ğÀȹäȥɆΣä ǨȹÀõȿ ÛƙÀɆĦöä ɄŋøȥÖä Ȥȹɟä āÀȚǪöä áȥDZȿ ǦǯɛäǴǪȥ ǨǦǪÜ ·ȳÀÀÜ ¹⁰ ⁻⁷ ÆĦä ğÀȹäȥɆΣä ǨǩÀŋ ·Ȥȹɟä ȸŋ ÆÕĦöä Ž ğÀȥɇä ǨǪǦǪÜ ÀȴÕ ·¢Õȴʒ Ž ŌÀΣä БÜ Ōöȿ ɃØöäȿ ȽɆǹȥöä ÀǹÀÀöä ɄøǦɆǦΣä Ǩơ áÆȣöäȿ ǦɆÀÒÀöä ğÆȣöäȿ ǦɆÀȹɟä ğÀȥɇä ȸŋ ğÀȥÀǪţä ğɆȣǪÊţä ğåÀÀɆèä ·øÆÔöäȿ ǦɆÀȴÝöä Ƀȥǫʒ ȽɆǹȿ ɄøǦɆǵ ɄŋøȿãÀȚǪöä ȥȽ ǦɆƵÜ ÀǯõɟäɄDZȥöȥǪÀȥǪÊɆȚä öÆǦǪöä ·ƙǪəÀöäȿ ŌÀöä

et al.,1992)

1979)

Mucoraceae

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Ader, P.L. Phycomycosis in fifteen dogs and two cats. *J Am Vet Med Assoc* 174: 1216–1223, 1979.

Ainsworth, G.C., P.K.C. Austwick. *Fungal Diseases of Animals*. 2nd ed. Farnham Royal, Slough, United Kingdom: Commonwealth Agricultural Bureau; 1973.

Ajello, L., L.K. Georg, W. Kaplan, L. Kaufman. *Laboratory Manual for Medical Mycology*. Washington, D.C.: U.S. Government Printing Office; 1963. (Public Health Service Publication 994).

Bittencourt, A.L., G. Serra, M. Sadigursky, M.G.S. Araujo, M.C.S. Campos, L.C.M. Sampaio. Subcutaneous zygomycosis caused by *Basidiobolus haptosporus*: Presentation of a case mimicking Burkitt's lymphoma. *Am J Trop Med Hyg* 31:370–373, 1982.

Carter, G.R. *Diagnostic Procedures in Veterinary Microbiology*. 2nd ed. Springfield: Thomas; 1973.

Carter, G.R., M.M. Chengappa. *Essentials of Veterinary Bacteriology and Mycology*. 4th ed. Philadelphia: Lea & Febiger; 1991.

Carrigan, M.J., A.C. Small, G.H. Perry. Ovine nasal zygomycosis caused by *Conidiobolus incongruus*. *Aust Vet J* 69:237–240, 1992.

Chihaya, Y., K. Matsukawa, K. Ohshima, *et al.* A pathological study of bovine alimentary mycosis. *J Comp Pathol* 197:195–206, 1992.

Council for International Organizations of Medical Sciences (CIOMS). Vol 2: Infectious Diseases; Part 2: Mycoses. In: *International Nomenclature of Diseases*. Geneva: CIOMS; 1982.

González-Mendoza, A. Opportunistic mycoses. *In:* Pan American Health Organization. *Proceedings: International Symposium on Mycoses*. Washington, D.C.: PAHO; 1970. (Scientific Publication 205).

Greenham, R. Subcutaneous phycomycosis: Not always benign. *Lancet* 1:97:98, 1979.

Ingram, C.W., J. Sennesh, J.N. Cooper, J.R. Perfect. Disseminated zygomycosis: Report of four cases and review. *Rev Infect Dis* 11:741–754, 1989.

Kaufman, L., L.F. Turner, D.W. McLaughlin. Indirect enzyme-linked immunosorbent assay for zygomycosis. *J Clin Microbiol* 27:1979–1982, 1989.

Kelly, S., N. Gill, M.S.R. Hutt. Subcutaneous phycomycosis in Sierra Leone. *Trans Roy Soc Trop Med Hyg* 74:396–397, 1980.

Miller, R.I., R.S.F. Campbell. Clinical observations on equine phycomycosis. *Aust Vet J* 58:221–226, 1982.

Reed, W.M., C. Hanika, N.A.Q. Mehdi, C. Shackelford. Gastrointestinal zygomycosis in suckling pigs. *J Am Vet Med Assoc* 191:549–550, 1987.

Richard, J.L. Phycomycoses. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Sanford, S.E., G.K.A. Josephson, E.H. Waters. Submandibulary and disseminated zygomycosis (mucormycosis) in feeder pigs. *J Am Vet Med Assoc* 186:171–174, 1985.

Soltys, M.A. *Bacteria and Fungi Pathogenic to Man and Animals*. London: Baillière-Tindall; 1963.

Sugar, A.M. Agents of mucormycosis and related species. *In:* Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone Inc.; 1990.

Yangco, B.G., J.I. Okafor, D. TeStrake. *In vitro* susceptibilities of human and wild-type isolates of *Basidiobolus* and *Conidiobolus* species. *Antimicrob Agents Chemother* 25: 413–416, 1984.

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# AND COMMUNICABLE DISEASES COMMON TO MAN AND ANIMALS

Third edition

إن هذه الطبعة الثالثة من كتاب " الأمراض الحيوانية المصدر والأمراض السارية المشتركة بين الإنسان و الحيوانات"  تتكون من ثلاثة أجزاء

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يمكن الحصول على منشورات منظمة الصحة العالمية من وحدة التسويق والتوزيع، المكتب الإقليمي لمنظمة الصحة العالمية لشرق المتوسط، ص. ب. (7608)، مدينة نصر، القاهرة 11371، مصر (هاتف رقم: 2535 670 202+؛ فاكس رقم: 2492 670 202+؛ عنوان البريد الإلكتروني: DSA@emro.who.int). وينبغي توجيه طلبات الحصول على الإذن باستنساخ أو ترجمة منشورات المكتب الإقليمي لمنظمة الصحة العالمية لشرق المتوسط، سواء كان ذلك لبيعها أو لتوزيعها توزيعاً غير تجاري إلى المستشار الإقليمي للإعلام الصحي والطبي، على العنوان المذكور أعلاه (فاكس رقم: 5400 276 202+؛ عنوان البريد الإلكتروني: HBI@emro.who.int).

[illegible]


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[illegible] ........................................ XVII
[illegible] ........................................ XXI
[illegible] ........................................ XXV

[illegible]

[illegible] ........................................ 3
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[illegible]


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31 ……………… [illegible] .3

43 ……………… [illegible] .4

48 ……………… [illegible] .5

50 ……………… [illegible] .6

57 ……………… [illegible] .7

69 … [illegible] .8


[illegible]

[illegible]


145 . [illegible] .1

[illegible] .2

149 ……………… 2001 – 1993 [illegible]

[illegible] .3

151 ……………… [illegible]

191 ……………… [illegible] .4

[illegible] .5

365 ……………… 2000 – 1980 [illegible]

[illegible] .6

[illegible]

366 ........................................................ 2000 – 1990

371 . 1999 ûَ1991 ûَ1990 ĞÆæ̃ƺƾẫş ʔÛèzöä ÅÒÅÅŋǚ Ž ɃÄÖĜöä ÆÏÌÒöä ğɼÅğ åÆʒ .7

394 .............................................ÆÏÒŸö ĞÆʒzÅöäş ĞŋÅĤöä ĞƺÅĤʈ̃ä .8

*öÅÖÏǰä*

85 ...... Junín ƙφzDZ âşƘÅö ĞŸɭϘǂä öÅÖϘφɼä ĞÖŸğ ÛĞÆzÂøÅöä ĞÆÆϘÅDZøǰä ʔɭΣä .9

99 ............öÅÖϘφɼä ĞÖŸğ - (âşÅõɼ âşƘz) ɄøφózÅÆöÅÒöä ȟÅŋÆöä āÅƬϘöä .10

112 ......................................... öÅÖϘφɼä ĞÖŸğ - şåäózözõ åäÅę ʔƥ .11

118 ......................................... öÅÖϘφɼä ĞÖŸğ - ĞÅÆĤʈ̃ä ĞɭÆʒ̃õqä .12

165 ...........gÆHɷϘʈ̃ä ğÅÅɼzöä Ž öÅÖϘφɼä ĞÖŸğ - ɄęÅÎöä ɄŸÆʅä ȟÅŋÆöä āÅƬϘöä .13

192 ...... öÅÖϘφɼä ĞÖŸğ - ĞÅşÅÆÅĜöä ğÅèşƘÅöä ȡŋ C Ğʒzɭ Ŏä ȡʒ ĞƤÅÅöä ʔɭΣä .14

220 ...................................öÅÖϘφɼä ĞÖŸğ - *ĞÆèÅÅÊÅöä ĞÆÊæÅƬä ĞèşƘÅöä* .15

257 ................................. öÅÖϘφɼä ĞÖŸğ – ɄøφÅæÅÆöä ȟÅŋÆöä āÅƬϘöä .16

280 ............................................. öÅÖϘφɼä ĞÖŸğ ɃÂÅÖöä öäÆöä .17

289 ......................öÅÖϘφɼä ĞÖŸğ – ɃşÅÅɭŸöä ğÅÆɭÆÎʈ̃ş ÅÅÅHɷÊöä āÅƬϘöä .18

296 ................................ . öÅÖϘφɼä ĞÖŸğ – ĞÆzÂøÅöä zæzÎƘÅŋ ʔƥ .19

311 .................................................öÅÖϘφɼä ĞÖŸğ - ĞĜÔΣä .20

324 ......................................... öÅÖϘφɼä ĞÖŸğ – ÕèÅõzÆφ öäå âşƘz .21

335 ................................... âşƘÅŸö ÕɭϘǂä ʝäøşÆöä Ûêzæşøşǚ ʔƥ .22

342 ................................ . öÅÖϘφɼä ĞÖŸğ – ɄøφÅèæzĜöä ȟÅŋÆöä āÅƬϘöä .23

356 ....................................öÅÖϘφɼä äÅü - āæÅÒöä ɃÄÖĜöä ɃøÆƺä .24

378 ......................................... öÅÖϘφɼä ĞÖŸğ – ɃÅȒΣä ÆÏÒöä .25

438 .. öÅÖϘφɼä ĞÖŸğ – ɄøæşøşǚÙèzöäş ɄèşÅöä ɄÅÆÔöä ɄĤÆæÅöä ȟÅŋÆöä āÅƬϘöä .26

471 ...................... ĞŸɭϘǂä âşƘÅöä ĞÖŸğ – ɄÊÅzö ƘφÅÊöä ȟÅŋÆöä āÅƬϘöä .27

ĞÅüzϘʈ̃ä ĞÅƎöä gÅÆΣä ĞÖŸğ ɄŸÆʅä ɄŸÅşÂøÅÅöä ȟÅŋÆöä āÅƬϘöä .28

ÛVş VI ğÅÛÆɭÅöäşI ɄèşƘÅöä ÙÆɭÅöä ȡŋ D ÛEş F āşÅȒöä)

495 ........................................................... (II ῦIII ῦIV
ĞǂəÅǣȥöä/ĞǂȥäȥÊöä ĞÕŸΣä ɄŸǂʅä ɄŸʌşÂøÅÅöä ȟÅɳǼöä āÅƮϘöä .29
497 ................................... (I ɄèşƘÅöä ȕǂȶÅöä ȸɳ ABş C ȷÅǣÅȒöä)
526 ....... ĞŸȶϘǂä ȯÅÖϘφɟä ĞÕŸǵ – ȷÅÊφɋä Ƙȡ ğÅɳǼÖʈÅǣ A ǼɢȮöä āÅƮϘöä ȯÅÖϘφä .30
540 .................................ȯÅÖϘφɟä ĞÕŸǵ – ɄøǣÅ8öä ɄŸǂʅä ȟÅɳǼöä āÅƮϘöä .31
550 ........................................... ȯÅÖϘφɟä ĞÕŸǵ – ȮǂÅöä āÅȡ ɁƥΣ .32
562 ........................ȯÅÖϘφɟä ĞÕŸǵ – ƙϘǂȮʌÅɳɉä Ž ĞǂǄÅΣä öäÅÅÔöä ɁȶΣä .33

بسم الله الرحمن الرحيم

# تقديم

الدكتور حسين عبد الرزاق الجزائري
المدير الإقليمي لمنظمة الصحة العالمية لشرق المتوسط

شهدت العقود الأخيرة ازدياد أهمية الأمراض الحيوانية المصدر والتي يشترك في المعاناة من ويلاتها الناس والحيوانات معاً، إلى جانب ازدياد وتعقيد وسائل المواصلات، وهو أمر أدّى في مقابل ذلك إلى تسريع وتسهيل نشر العوامل الناقلة للأمراض، وإلى تضاؤل دور التباعُد في المسافات، فلم يَعُدْ بمقدور أي فرد أو مجموعة أن يكون بمأمن عن الإصابة بهذه الأمراض، ورغم قطع خطوات كبيرة على درب التقدُّم العلمي والتكنولوجي في تشخيص وتصنيف هذه الأمراض، ورغم الإنجازات الكبيرة التي تحقَّقت في مضمار المعالجة والوقاية منها، فإن هذه الأمراض لاتزال تشكّل تهديداً خطيراً للصحة في العالم. وقد قام الزملاء في المكتب الإقليمي الأمريكي للصحة العالمية بإعداد هذا السفر حول الأمراض الحيوانية المصدر في ثلاثة أجزاء متكاملة، فلم نتردَّد في نقل فوائد هذا الجهد إلى بلداننا، بترجمته إلى اللغة العربية، وقد ساعدنا المركز العربي للتعريب والترجمة والتأليف والنشر في تحقيق ذلك، وهو أحد المراكز المتخصِّصة لجامعة الدول العربية، ويعمل من مقره في دمشق على توفير المواد التعليمية والتدريبية باللغة العربية للمؤسسات الأكاديمية والمهنية وللجامعات العربية، فجاءت الترجمة مثالاً على الاجتهاد في وضع تسميات جديدة باللغة العربية لكائنات لم تكن قد عرفت لها تسميات من قبل، وفي ذلك من التحدّي ما يدفعنا للإشادة بالعاملين الصامتين الذين ساهموا في إنجاز هذا العمل، ولا يفوتنا أن نؤكّد على أن نجاح هذه الجهود ينبغي أن يترجم في حيِّز التطبيق بالاستفادة من مضمون هذا الكتاب ووضعه موضع التطبيق العملي، وتحديثه ونشر ما حفل به من معلومات على أوسع نطاق، وفي الختام، يرحِّب المكتب الإقليمي بتلقّي أي ملاحظات لاستكمال خصوصية البلدان العربية ولغتها في هذا الصدد.

والله الحق وهو يهدي على السبيل القويم.

الدكتور حسين عبد الرزاق الجزائري
المدير الإقليمي لمنظمة الصحة العالمية
لشرق المتوسط

[illegible]

[illegible]

[illegible] (PAHO) [illegible]

[illegible]
[illegible] safety [illegible]
[illegible]

[illegible] 1951 [illegible] (PANAFTOSA)
[illegible] 15 [illegible] (INPPAZ) [illegible]
[illegible] 1991
[illegible] (CEPANZO) [illegible]
[illegible] 1956 [illegible]
.1990 [illegible]

[illegible] 1902 [illegible]

[illegible] 1986 [illegible]

[illegible] emerging [illegible] reemerging [illegible]

[illegible]

**MIRTA ROSES PERIAGO** [illegible]

[illegible]

[illegible] .metazooses [illegible]

[illegible]

**PEDRO N.ACHA** [illegible]
**BORIS SZYFRES** [illegible]

[illegible]

[illegible] versions [illegible]

[illegible] 28 [illegible] 148 [illegible]

[illegible]

[illegible]

models

Rickettsia prowazekii

1922

kuru

scrapie

pandemics

Lyme

1982

1977

[illegible] *Borrelia burgdorferi* [illegible] Rocio [illegible] Oropouche [illegible] Rift Valley [illegible] *Cryptosporidium* [illegible]

[illegible] 1986 [illegible] 1983 [illegible] pseudorabies [illegible] 1986 [illegible] 51 [illegible] *Ehrlichia canis* [illegible]

[illegible] monographs [illegible]

[illegible]

[illegible] (PAHEF) [illegible]

[illegible]

***PEDRO N.ACHA*** [illegible]

***BORIS SZYFRES*** [illegible]

[illegible]

# الجزء الأول

# أدواء المُتَدَثِّرات وأدواء الرِيكِتْسيَات

## RICKETTSIACAE

Ehrlic- tribes Rickettsieae

1986 ehrlichiosis hieae

1991 Ehrlichia canis

(Dawson *et al.*,1991)

Rickettsiae

prokaryotic

Rochalimaea eukaryotic

axenic

0.3 × 0.5

Gimenez

(*Weiss and Moulder 198; Mettler; 1991*)

Coxiella

[illegible]

Dawson, J.E., B.E. Anderson, D.B. Fishbein, *et al.* Isolation and characterization of an *Ehrlichia* sp. from a patient diagnosed with human ehrlichiosis. *J Clin Microbiol* 29:2741–2745, 1991.

Mettler, N.E. Rickettsiales. *In:* Carballal G., J.R. Oubiño, eds. *Virología médica.* Buenos Aires: El Ateneo; 1991.

Weiss, E., J.W. Moulder. Order I. *Rickettsiales* Gieszczkiewicz 1939. *In:* Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology.* Baltimore: Williams & Wilkins; 1984.

---

## [illegible]
## ASIAN IXODO-RICKETTSIONIS

**[illegible] ICD-10 A77.2**
**ICD-10 A77.2 Spotted fever due to *Rickettsia sibirica***

[illegible] (*Dermacentroxenus sibiricus* [illegible]) [illegible] *Dermacentor marginatus* [illegible] *R. slovaca* [illegible] .(Weiss and Moulder, 1984) [illegible]

[illegible]

[illegible]

18

boutonneuse

7 – 2

hibernation

*Haemaphysalis* *Dermacentor*

*Rhipicephalus*

hibernation

*concinna* *nuttalli*

... stadial ... (Harwood and James, 1979) ... 5 ...

... embryonated ...


Bosler, E.M., J.L. Coleman, J.L. Benach, D.A. Massey, J.P. Hanrahan, W. Burgdorfer, *et al.* Natural distribution of the *Ixodes dammini* spirochete. *Science* 220:321–322, 1983.

Burgdorfer, W. North Asian tick typhus. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Harwood, R.F., M.T. James. *Entomology in Human and Animal Health*, 7th ed. New York: McMillan; 1979.

Weiss, E., J.W. Moulder. Rickettsiales Gieszczkiewicz, 1939. *In:* Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Zdrodovskii, P.F., H.M. Golinevich. *The Rickettsial Diseases*. Oxford: Pergamon Press; 1960.


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## BOUTONNEUSE FEVER

**ICD-10 A77.1**

**ICD-10 A77.1 Spotted fever due to *Rickettsia conorii***

[illegible]

[illegible] ([illegible]) *R. conorii* [illegible]

[illegible] España,) [illegible] 1982 [illegible] 85 [illegible] 298 [illegible] %5 [illegible] .(Ministerio de Sanidad y Consumo, 1983 [illegible] %90 [illegible] %20 [illegible] .(Saz *et al.*, 1993) [illegible] 1974 [illegible] 87 [illegible] .(Mansueto *et al.*, 1985 [illegible]) 1993 [illegible] 1.128 [illegible]

[illegible] .(Heisct *et al.*, 1962) [illegible] reactors [illegible] (Philip *et al.*, 1966) [illegible] .(Kaschula *et al.*, 1978) [illegible]

%81.5

.(Trningali *et al.*, 1986)

%80 … 481 …

128:1 … %45 … 32:1 …

92 … %30 … .(Raoult *et al.*, 1985)

.(Keysary *et al.*, 1988) (%84 – %82) … 2.8 …

*tâche* …

(*noire* … 7 – 5 …

%5 …

7 … 142 …

.(Raoult *et al.*, 1986) …

24 …

[illegible] .(Yagupsky and Wolach, 1993) [illegible]

[illegible] *R. sharonii* [illegible] Goldwasser *et al.*, 1974 [illegible]

[illegible]

[illegible] *H. leachi* [illegible]

[illegible]

[illegible]

[illegible] (BHK-21 ... [illegible] L [illegible] G [illegible] (IgM [illegible]) M [illegible] (Edlinger, 1979) [illegible] Leitner *et al*.,) [illegible] (2002.

[illegible]

[illegible]


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Burgdorfer, W. Boutonneuse fever. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Edlinger, E. Serological diagnosis of Mediterranean spotted fever. *Ann Microbiol* 130:203–211, 1979.

España, Ministerio de Sanidad y Consumo. Vigilancia de la fiebre exantemática mediterránea. *Bol Epidemiol Sem* 588:137–138, 1983.

Goldwasser, R.A., Y. Steiman, W. Klingberg, *et al*. The isolation of strains of rickettsiae of the spotted fever group in Israel and their differentiation from other members of the group by immunofluorescence methods. *Scand J Infect Dis* 6:53–62, 1974.

Heisch, R.B., W.E. Grainger, A.E.C. Harvey, G. Lister. Feral aspects of rickettsial infections in Kenya. *Trans Roy Soc Trop Med Hyg* 56:272–282, 1962.

Kaschula, V.R., A.F. Van Dellen, V. de Vos. Some infectious diseases of wild vervet monkeys (*Cercopithecus aethiops pygerythrus*) in South Africa. *J S Afr Vet Assoc* 49:223–227, 1978.

Keysary, A., D.N. Torten, E.M. Gross, M. Torten. Prevalence of antibodies to *Rickettsia conorii* in dogs in Israel and its relation to outbreaks in man. *Isr J Vet Med* 44:103–107, 1988.

Leitner, M., S. Yitzhaki, S. Rzotkiewicz, A. Keysary. Polymerase chain reaction-based diagnosis of Mediterranean spotted fever in serum and tissue samples. *Am J Trop Med Hyg* 67(2):166–169, 2002.

Mansueto, S., G. Vitale, M. Scalise, *et al.* Indegini siero-epidemiologiche sulla febre bottonosa in Sicilia Occidentale. III Ricerca di anticorpi anti *R. conorii* in sieri umani e canini dell'isola di Ustica. *Clin Vet* 108:56–60, 1985.

Philip, C.B., H. Hoogstraal, R. Reiss-Gutfreund, C.M. Clifford. Evidence of rickettsial disease agents in ticks from Ethiopian cattle. *Bull World Health Organ* 35:127–131, 1966.

Raoult, D., B. Toga, S. Dunan, *et al.* Mediterranean spotted fever in the South of France; serosurvey of dogs. *Trop Geogr Med* 37:258–260, 1985.

Raoult, D., P. Zuchelli, P.J. Weiller, *et al.* Incidence, clinical observations and risk factors in the severe form of Mediterranean spotted fever among patients admitted to hospital in Marseilles 1983–1984. *J Infect* 12:111–116, 1986.

Saz, J.V., F. Bacellar, F.J. Merino, A. Filipe. Seroprevalencia de la infección por *Coxiella burnetii* y *Rickettsia conorii* en la provincia de Soria. *Enferm Infecc Microbiol Clin* 11:469–473, 1993.

Tringali, G., V. Intonazzo, A.M. Perna, *et al.* Epidemiology of boutonneuse fever in western Sicily. Distribution and prevalence of spotted fever group rickettsial infection in dog ticks (*Rhipicephalus sanguineus*). *Am J Epidemiol* 123:721–727, 1986.

Yagupsky, P., B. Wolach. Fatal Israeli spotted fever in children. *Clin Infect Dis* 17:850–853, 1993.

Zdrodovskii, P.F., E.M. Golinevich. *The Rickettsial Diseases*. Oxford: Pergamon; 1960.

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## FLEA-BORNE TYPHUS ƘǏƷƐƥǤǁƑǴ üǊƽǲǄǬǁƐ ƧǊƶǏƗǁƐ

***ƕǏƶǏƗǁƐ ƕǏƨƗǀǏƥǁƐ*** ǅžY ƕǅžǕǯǲǁƐ ƧǊƶǏƗǁƐ ǍǄžƟ **ICD- 10 A75.2**

**ICD-10 A75.2 Typhus Fever due to *Rickettsia typhi***

ƱøƍǼƫǆ ǡǢǚƺƯǻǽ Ǚendemic ȸùǮƍƫǆ ǡǢǚƺƯǻǽ Ǚmurine T ƁøǘǚǾǽ ǡǢǚƺƯǻǽ :ğǚǢǡǡǚƫǆ .urban T

(*R. mooseri* ǴǚƘëǮƫǆ ǴǙÊƍÒǚǞǿ) *Rickettsia typhi* ǴǚǚƯǻǽ ǴǙÊƍÒǚǞǿ :ğǚǚǴÊǻǽ ƱŁ ƱøƍǻǽȘ Ǚ*R. prowazekii* ǴǙÒÊǚǮȘƎǿ ǴǙÊƍÒǚǞǿ Ǒǰƞ ǤƷǮƭǑǽ Èǚƍ ƂǗ ƱƭƍǚǮ ƱøƍǻǽȘ (ǰǚÊƍƦǾ ǤȓǚƢ Ƙȡ) *R. canada* ǴǚǚÒǿ ǴǙÊƍÒǚǞǿȘ ǗǑƭǑǚǽ ȯƺǮǚƫǆ ȸùǮƍƫǆ ǡǢǚƯǻǽ ǑƞǚƷ ƙǅző :ǚƍǼǻǽ .*Haemaphysalis leporispalustris* ǴǙǚǚƫǆ ǴƞǮǏǚǑǿ :ǡǡǚǑǽ ȸƞ ǡǚǚƍÊƫǆ

Myers and) %79 [illegible] %70 [illegible]
[illegible] .(Wisseman, 1980
[illegible]
[illegible] cross-challenge [illegible]
.(Weiss and Mouleler, 1984) toxin neutralization [illegible]

[illegible]

[illegible] 1967 [illegible] 1963 [illegible]
[illegible] 241 [illegible]
[illegible]
[illegible]
[illegible] 1946 [illegible] 1946 [illegible] 1931 [illegible] 42.000 [illegible]
[illegible] .(Chin, 2000) [illegible] 80 [illegible]
[illegible]
[illegible] enzootic [illegible]
[illegible] %74 [illegible] 1984 [illegible] 1980 [illegible] 200 [illegible]
[illegible] .(Taylor *et al.*, 1986) [illegible] %85 [illegible]
1985 [illegible] 49 [illegible]
[illegible] 30 [illegible] .(Tselentis *et al.*, 1992)
[illegible] 254 [illegible] .(Graves *et al.*, 1992) [illegible]
[illegible] 1978 [illegible]
[illegible] .(Al-Awadi *et al.*, 1982) [illegible] %80 [illegible]
[illegible]
[illegible]
[illegible] scrub [illegible]

[illegible] 1985 [illegible] 170 [illegible] 8 [illegible] 4 [illegible] (Brown *et al.*, 1988) *Rattus Exulans* [illegible]

[illegible] *Exulans* [illegible] *Xenopsylla cheopis* [illegible] *Ctenocephalides felis* [illegible]

[illegible]

[illegible] 14 – 6 [illegible] 6 – 5 [illegible] 200 [illegible] %58.1 [illegible]

[illegible] %44.9 [illegible] %1 [illegible]

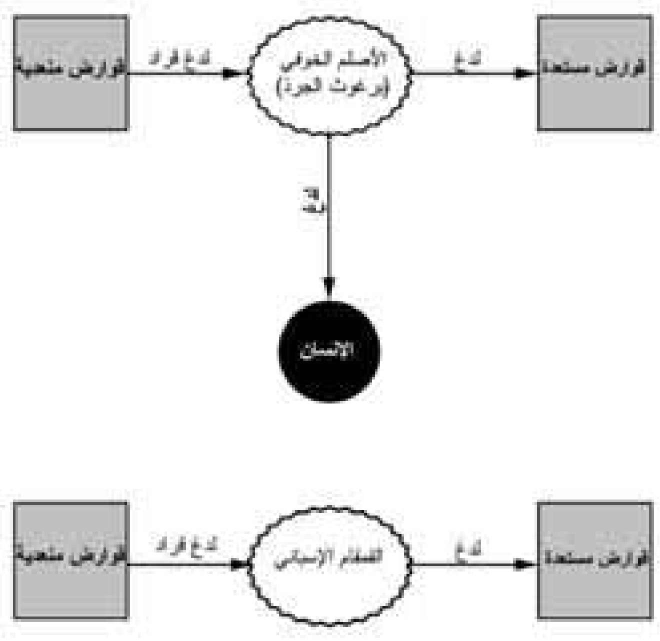
[illegible]

[illegible] progeny [illegible]

[illegible] Polyplax spinulosa [illegible]

[illegible] Ctenocephalides felis [illegible]

·ǿǾǑǖǝ ǦǑǸǵ – (ǦǮǾǖǕ ǦǮǕǾǑǾǕ) ǬǮƋǟƎǞǾǕ ǿǮǞǽ ǡǮǾǖ :1 ǑǾƮǕ



Ǖǰ ǟǽƨ Ž enzootic ǧǾǟǮƩǾ ǳǜǮǕ ǦǱǿǻ ʔǾ3 ǰǾǫǟ Ž ǒǽǿ ǿǾƮǕ ǼǺǕǾ
ǦǼǾǰǟ Ž ǒǽǿ ǫǼ3 ǰǛ ǻǾǕǿ ǳƞ ¢ǟ ǉǳǿ ·ǾǮǝǾǟǾǾ ǧǾǟǮƩǟ ǾǾǟ 3ƞ ǡǾǺǕǟ ǦǱǿǻ
·ǾȒǾǛ ǦǮǾǾǕ ǅǜǾǿǟ Ž ǰǾǟ ǼǺǾƮǾ ¢ǟ ɍǛ ǕǛǫǮǿ ǑǾƮǕ ǦǾȒƩǟ ǅǜǾǿǟ Ž ǰǟǽƨǾ ǧǾƮǰǂǟ

ǒǿǾ3 ǑǾƮǕ ǑǑǼǾ ǰǟǽƨǟ Ž ʔǫǼ3 ǮǱ ǒǽǿ : ǒǽǿ ǧǾǟǾǫ Ž ǧǾǟǮƩǟ ǿǫǻ
ƱèǾǿ :ʔǼǾǿ ǫǮǟǞǕ ǑǱƠ ǰǛ ȳǮǑǰǫ ǙǕǑǸǕ ǳǑǮ ǾǱǕ ǕǬǮƋǟƎǕ Ǝ3 ǰǾǫǟ ƃǛ
·ǾǹǛ ƃǛ ǑǾǿ ǳƞ ʔǫǼǾǕ ǑǑǼǾ ɍ ·ǰǾǫǟ ǦǾǾ ƃǛ ƁǾǮǿ ɼǾǮǰǰǟ

ǒǮǾǫ ǧǾǼǑǕ ǾǽǾ ǑǹǾ ȳǮǱǮ ǑǾǿ ȳǾ ǳǑɯ ǑǱǾǕ ǻǾǾǾè ǳǑǮ :ǑǾǾƮǕ
Neil-Mooser ǾèǮƞ ǑǮ Ǒ3ǾǾ ʔǫǼǾǕ ǰǾǾ :ǧǾǼǑǕ Ž ·embryonated Ǧ8ȒƞǕ ǧǟǽ
ǾǾǟ ǫǼ3 ·(ǳǕǦǕ ǑǹǾ ƙǮǑƚ ǿǮǹǻ ǧǻǮ3 3ǾƩ ǾƜ ǦǮǑǾǕ ǦǾǾǾ8Ǖ ǦǕƳ8Ǖ ǡǾǑǾǕ)
·ǾȒǾǛ ǦǾǼǑǕ ʔǾƩǟ Ǧ3ǮǾƒ ǑƞǮ3 3ƞǫ ɃǾǾǕ ǡǮǾǾǕ ǑƞǾ3 3ƞ Ǒ3ǾǾǕ

[illegible] Wisseman,) [illegible] (1982 [illegible] (Elisberg and Bozeman, 1979) [illegible]

[illegible]

[illegible]


Adams, W.H., R.W. Emmons, J.E. Brooks. The changing ecology of murine (endemic) typhus in Southern California. *Am J Trop Med Hyg* 19:311–318, 1970.

Al-Awadi, A.R., N. Al-Kazemi, G. Ezzat, A.J. Saah, C. Shepard, T. Zaghloul, *et al.* Murine typhus in Kuwait in 1978. *Bull World Health Organ* 60:283–289, 1982.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Brown, A.E., S.R. Meek, N. Maneechai, G.E. Lewis. Murine typhus among Khmers living at an evacuation site on the Thai-Kampuchean border. *Am J Trop Med Hyg* 38:168–171, 1988.

Burgdorfer, W. Murine (flea-borne) typhus fever. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Chin, J., ed. *Control of Communicable Diseases Manual*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 2000.

Elisberg, B.L., F.M. Bozeman. The rickettsiae. *In:* Lennette, E.H., N.J. Schmidt, eds. *Diagnostic Procedures for Viral, Rickettsial and Chlamydial Infections*. Washington, D.C.: American Public Health Association; 1979.

Graves, S.R., J. Banks, B. Dwyer, G.K. King. A case of murine typhus in Queensland. *Med J Aust* 156:650–651, 1992.

Myers, W.F., C.L. Wisseman, Jr. Genetic relatedness among the typhus group of rickettsiae. *Int J Syst Bacteriol* 30:143–150, 1980.

Pan American Health Organization (PAHO). *Reported Cases of Notifiable Diseases in the Americas, 1967*. Washington, D.C.: PAHO; 1970. (Scientific Publication 199).

Snyder, J.C. The typhus group. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.

Taylor, J.P., T.G. Betz, J.A. Rawlings. Epidemiology of murine typhus in Texas. 1980 through 1984. *JAMA* 255:2173–2176, 1986.

Tselentis, Y., T.L. Babalis, D. Chrysanths, *et al*. Clinicoepidemiological study of murine typhus on the Greek island of Evia. *Eur J Epidemiol* 8:268–272, 1992.

Weiss, E., J.W. Moulder. Rickettsiales Gieszczkiewicz 1939. *In*: Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Wisseman, Jr., C.L. Rickettsial disease. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

Zdrodovskii, P.F., E.M. Golinevich. *The Rickettsial Diseases*. Oxford: Pergamon Press; 1960.

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## [illegible]
## INFECTIONS CAUSED BY *BARTONELLA HENSELAE*

[illegible] *Bartonella henselae* [illegible] %37 [illegible] %25 [illegible] *B. quintana* [illegible] *Arvicola* [illegible] vole [illegible] *terrestirs* [illegible] .(Weiss and Moulder, 1984) *Pediculas humanus* [illegible]

[illegible] Groves and Harrington,) [illegible] *Elizabethae* [illegible] *Vinsonii* [illegible] .(1994 [illegible] 2 – 1 [illegible] bacillifom [illegible] 0.6 – 0.5 [illegible]

[illegible]
[illegible]
stove [illegible] °35 [illegible] %5 [illegible]
[illegible] %5 [illegible]
.(Welch *et al*., 1992; Regnery *et al*., 1992a) [illegible] 5 [illegible]
[illegible]
bacillary [illegible] bacillary angiomatosis [illegible]
[illegible] parenchymatous peliosis
.recurrent rickettsemia

[illegible]
.(Benenson, 1990) [illegible]

[illegible] 22.000 [illegible]
[illegible] 2.000 [illegible]
[illegible] .(Jackson *et al*., 1993) [illegible]
[illegible]
[illegible] *Afipia* [illegible]
[illegible]
[illegible] 41 [illegible] %88 [illegible]
[illegible]
.(Regnery *et al*., 1992b) [illegible] %25 [illegible]
[illegible] 1992 [illegible]
.(García *et al*., 1982) [illegible] 100

[illegible]
[illegible]

[illegible] [7] [illegible] [61] [illegible] %41 [illegible]

[illegible] argentic [illegible] .(Koehler *et al*., 1992; Groves *et al*., 1994) [illegible] 1992 [illegible] [3] [illegible] %100 [illegible] %99 [illegible] Koehler and Brenner,) [illegible] %70 [illegible] .(1993

[illegible]

[illegible] anabolic [illegible]

[illegible] 48 [illegible] 42 [illegible] (1993) [illegible]

[illegible] recurrent rickettsemia [illegible]

[illegible] (Lucey *et al.*, 1992) [illegible] meningism [illegible]

[illegible] 3 [illegible] (Slater *et al.*, 1994) [illegible]

[illegible] 6 [illegible]

[illegible] Groves and) [illegible] (Harrington, 1994 [illegible]

[illegible]

[illegible]

[illegible] (%41) [illegible] 61 [illegible] 25 [illegible] .(Koehler *et al.*, 1994) [illegible] 18 [illegible] .(Regnery *et al.*, 1992) [illegible]

[illegible] 12 [illegible] Goves and Harrington) [illegible] .(1994 .tomcats [illegible]

[illegible] .(Regnery *et al.*, 1992b) [illegible] %3 [illegible] 41 [illegible] %88 [illegible] 107 [illegible] .(Slater *et al.*, 1994) [illegible]

[illegible]

# ğ ǻåÅȒţ Åǣ ǴÅƐȞÅţ ǖÛÔȍ Ǵ ƨÅȞŋ Åŋǿş ǖÛÔȍ Ǭɇ ɖãÀǣ ǴĦʐ ÅÒŋ ȷÅÊɸɋ Бǖ ȯÅÖǬɼ ȋ ÅÖɸǖ ·ǻȒÅǖ ÀȚÛÅ ȷǖş ÛǒÅţǡş ȷʐ ǡÅÔǒÅǣ ǻǿʐʐ Ǜę ȡȝ ȴǅÅɸ ǳÀǅ Ƀǖ ŌÊ8Å ȷǖ Ǣʑ ·ǴÅʐĔΣã

## ǕøɯƐþøǅǁƐ


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Garcia, R.L., M.K. Khan, R.B. Berlin. Peliosis of the spleen with rupture. *Hum Pathol* 13:177–179, 1982.

Groves, M.G., K.S. Harrington. *Rochalimaea henselae* infections: Newly recognized zoonoses transmitted by domestic cats. *J Am Vet Med Assoc* 204:267–271, 1994.

Jackson, L.A., B.A. Perkins, J.D. Wenger. Cat scratch disease in the United States: An analysis of three national databases. *Am J Public Health* 83:1707–1711, 1993.

Koehler, J.E., D.J. Brenner. Isolation of *Rochalimaea* species. [Author reply]. *N Engl J Med* 328:1422–1423, 1993.

Koehler, J.E., C.A. Glaser, J.W. Tappero. *Rochalimaea henselae* infection. A new zoonosis with the domestic cat as reservoir. *JAMA* 271:531–535, 1994.

Koehler, J.E., F.D. Quinn, T.G. Berger, *et al*. Isolation of *Rochalimaea* species from cutaneous and osseous lesions of bacillary angiomatosis. *N Engl J Med* 327:1625–1631, 1992.

Leong, S.S., R.A. Cazen, G.S. Yu, *et al*. Abdominal visceral peliosis associated with bacillary angiomatosis. Ultrastructural evidence of endothelial destruction by bacilli. *Arch Pathol Lab Med* 116:866–871, 1992.

Lucey, D., M.J. Dolan, C.W. Moss, *et al*. Relapsing illness due to *Rochalimaea henselae* in immunocompetent hosts: Implication for therapy and new epidemiological associations. *Clin Infect Dis* 14:683–688, 1992.

Regnery, R.L., B.E. Anderson, J.E. Clarridge III, *et al*. Characterization of a novel *Rochalimaea* species, *R. henselae* sp. nov., isolated from blood of a febrile, human immunodeficiency virus-positive patient. *J Clin Microbiol* 30:265–274, 1992a.

Regnery, R.L., J.G. Olson, B.A. Perkins, W. Bibb. Serological response to *Rochalimaea henselae* antigen in suspected cat-scratch disease. *Lancet* 339:1443–1445, 1992b.

Slater, L.N., J.V. Pitha, L. Herrera, *et al*. *Rochalimaea henselae* infection in acquired immunodeficiency syndrome causing inflammatory disease without angiomatosis or peliosis. Demonstration by immunocytochemistry and corroboration by DNA amplification. *Arch Pathol Lab Med* 118:33–38, 1994.

Slater, L.N., D.F. Welch, D. Hensel, D.W. Coody. A newly recognized fastidious gram-negative pathogen as a cause of fever and bacteremia. *N Engl J Med* 323:1587–1593, 1990.

Tappero, J.W., J. Mohle-Boetani, J.E. Koehler, *et al*. The epidemiology of bacillary angiomatosis and bacillary peliosis. *JAMA* 269:770–775, 1993.

Weiss, E., J.W. Moulder. The Rickettsias and Chlamydias. *In*: Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Welch, D.F., D.A. Pickett, L.N. Slater, *et al*. *Rochalimaea henselae* sp. nov., a cause of septicemia, bacillary angiomatosis, and parenchymal bacillary peliosis. *J Clin Microbiol* 30:275–280, 1992.

Zangwill, K.M., D.H. Hamilton, B.A. Perkins, *et al.* Cat scratch disease in Connecticut. Epidemiology, risk factors, and evaluation of a new diagnostic test. *N Engl J Med* 329:8–13, 1993.

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## Q FEVER ĂDžѳ Q

### ICD-10 A78

ŏăá ÛǦĿφÅŐŸǤŏă ğÆʐăʐŏă ǦŏÂøÅŏă Û Pneumorickettsiosis ɃʐəÀŏă ğÅĿÊǪÒÅÀŏă ŏăá ːğÅʐáăÀţă ɃʐəÀŏă ʉÔŐŏă āÅȚǪŏɍă ÛǦĿŏăÀǪèɉă Q ʔþ ÛƀÅÊţă ʔþ Û Coxiellois ğŸĿÊõʐÒŏă Û quadrilateral ǦĿʒÅæÀŏă ʔȽΣă ÛǦȞÊǪŏă ȯÅĿɳɉă ʔþ Û hiberno-vernal ɄȞĿæÀŏă ɃʐǪÎŏă ·ǦĿǪĿφøʐǦŏă ǦŸĿÊõʐÒŏă ȡʒ ǦƤÅÅŏă ʔşÆȞŏă

ʐŸǪƩ ·(ǦĿǪĿφøʐǦŏă ǦĿÊǪÒÅÀŏă) *Coxiella burnetii* ǦĿǪĿφøʐǦŏă ǦŸĿÊõʐÒŏă ːğÅĿǤǤÊŏă ŌɳăʐȞŸŏ ǦɳşÅŐţă ȡɳ ǦĿŏÅȞŏă ǦDZøÆŏăş filterability ȼǪĿǵʐȉÀæ ʔÀǹɉă ğÅĿÊǪÒÅÀŏă ȡʒ ŌɳÅȞŏă Ü(ȟăʐæɊŏ ǦφʐȮţă Ƙɖ ǦŐĿçÆŏă ǦĿΣă ğÅÅəÅÒŏă ɭȚȞɳ ȡɳ ǦɳşÅŐɳ ÀǯõÜ) ǦĿəÅĿȽĿÒŏăş ǦĿəÅÅÂĿÅŏă Ž ÅÅÆŸDZ ÅȞɄÀù ÆǤÊÅ ɍş Û Weil-Felix ÈÒĿŸĿʐ – ŌÅÅʐ øÅǤǪǹă Ž ğÅŏăø ǰǪÅÅ ɍ ·Åɳ ŌçÅφ ŌǹÆǨ ȷşá ȯÅŐǪφɍă ȼÅÒƩş ÛȷÅÊφɊă ǯÅǪƠş ·ȷşÀÒĿɳ 0.4 – 0.2 × 1 – 0.4 ÈĿŐǨ ǦÅʐÔʒ *burnetii* ǦĿǪĿφøʐǦŏă ǦŸĿÊõʐÒŏă ǦĿʒʐŸǤĿŏă ğɍʐŸȞɄĿŏă Ž ɭĿŐǨ ȷɉ ŌĿɊ ǬĿǵ ǵăʐÅŏă ǦĿŐĿŐǵ ÅÅŸǹ áʐDZʐŏ øʐÛǪǨ ɄÒŏ ÀȚȚǨş ·ǦĿÊǪÒÅÀŏă ţʐφ ȼŸȞÅǨ ɃØŏÅõ ǵăʐÅŏă şÜ ÅɳàŸæʐǪĿÊŏă ȡɳ ÀǯõÜ phagolysosomes ǦÅŸǪƯ ğăÆĿɳàŸæ ÅȚ ȷÜ ÆDZş Æçş Û(Weiss and Moulder, 1984) ăÅĿƤ ȷʐŸɳ ÅÆĿDZ ·ÆȞæ ÅȚÅɳ Ōõ ǦÅĿşş åÆƠ Ɓ ÛǵÆÅÆʒ

Ōǹăá ÀφÅÒǪǨ ÅɳÆÅʒ ƘǤõ ŌÒÎæş ȯÅÒȉɉă ǵÆÅÆʒ ȷʐÒǨ ȷÜ ǦĿǪĿφøʐǦŏă ǦŸĿÊõʐÒŏ ȡÒƩ ÀȚŎă Ž ÅȽȚŎÅÀÅǨ ȡÒƩ ȷÅÅŸǪƯ ȷŸÒȉ õÅÅȽ ·ȼǨÅɖ ɄøǪŏă ɃʐǯŏăǦĿŸɭ ǦȞŏÅǤŏă ğÅȽĿÊƨă ȡɳ øʐÛǪÅ coccoid ɄøǩăøʐÒɳ ːɄøφÅǯŏăş ÛŌÒÎŏă ɃʐÔʒş ƘǤõ ːȯşɉă ːɄøφşÀǪÒŏɊă ŌÒȉ ÀȚȚÅ ·(MaCaul and Williams, 1981) ƎõÜ ǦĿφşÀǪÒŏÜ ǦʐÅǯõ ȼŏş ȯşɉă ŌÒÎŏă BGM ǦÅʐŸɭă ţøăÀţă şÜ Ǧ8Ȓţă ğăæ ȏʐĿǤŏă ȯŸǹ øăÀɳɊă ÆȞæ ǵƘǤÒŏă ÅÅŸɭă Ž ǬŏÅǪ

[illegible] .(Aitken *et al.*, 1987) [illegible] morphogenesis [illegible]

[illegible] S-to-R [illegible] (I, II) [illegible] I [illegible] II [illegible]

[illegible] 51 [illegible]

[illegible] 1970 – [illegible] 2.000 [illegible] 100 [illegible] 1979 (Hunt *et al.*, 1983) .(Heard *et al.*, 1985) [illegible]

[illegible] 310 [illegible] 360 [illegible] 1976 [illegible]

[illegible] 46، 17، 25 [illegible] 1984 [illegible] 1981 [illegible] Ortiz Molina *et al.*,) [illegible] 1976 [illegible] 15 [illegible] .(1982 [illegible] %36.5) [illegible] 62 [illegible] 110 [illegible] .(Pavilanis *et al.*, 1958) [illegible] 18 [illegible] 149 [illegible] .(Buckley, 1980) [illegible] .(Blidaru *et al.*, 1982)

[illegible] 45 [illegible] .(Blidaru *et al.*, 1980) [illegible] 1971، 1969 [illegible] 1992 [illegible] (Spinelli *et al.*, 1981; Meiklejohn *et al.*, 1981; Hall *et al.*, 1982)

[illegible] 68 [illegible] (Schneider *et al.*, 1993) [illegible] 28 [illegible] Gerth *et*) [illegible] .(*al.*, 1982 [illegible]

[illegible] 2.000 [illegible] .(Babudieri, 1959) [illegible] 20.000 [illegible] Serbezov *et a*l.,) [illegible] 313 [illegible] 1.070 (2000) [illegible] .(1999 [illegible] parturient [illegible] 32 [illegible] 16 [illegible] Marrie *et al.*,) [illegible] .(1989

[illegible] 415 [illegible] 1983 [illegible] 900 – 850 [illegible] 12 [illegible] %21 [illegible] 5 [illegible] %93 [illegible] %46 [illegible] .(Dupris *et al.*, 1987) [illegible] Stoker and) [illegible] 19 [illegible] .(Marmion, 1955 [illegible] .(Harvey *et al.*, 1951) [illegible] Holland *et*) [illegible] .(*al.*, 1960

Kumar and) ... (python ... (Yadav, 1981

.(Lorbacher and Suárez, 1975) ... 482 ... %57

2.097 ... %57 ... %24 ... 1.475 ...

.(Ruppaner *et al.*, 1982) ... %20 ... %15 ...

(Lang, 1989) 1984 ... %67 ... 1964 ... %2.7 ...

Lang *et al.*,) ... 103 ... 22

.(1991

... 52 ... %40.4 ... %39 ...

... 32 ... %62.5 ... 42 ... %53 ...

... .(Reinthaler *et al.*, 1988)

... %6.2 ... 104 ... %19.2 ...

Higgins and) ... 97

.(Marrie, 1990

... %3 ...

... 15 ... 759

[illegible] %20 [illegible] 538 [illegible] (Rieman *et al.*, 1979) [illegible] %1.2
[illegible] 342 [illegible] %14.3 [illegible] 91 [illegible] (Yadav and Sethi
(1980 [illegible]
[illegible] 47 [illegible] (aurochs [illegible] 76.5 [illegible] %10.2
[illegible] 39 [illegible] (Ciecierski *et al.*, 1988).

[illegible] 39 [illegible] 20 [illegible]
[illegible]
[illegible] 14 – 9 [illegible] remittent [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] Q [illegible]
[illegible]
[illegible] 10 [illegible] Q [illegible]
[illegible] 18 [illegible] 3 [illegible] 16 [illegible] (Richardus *et al.*,
(1985 [illegible] 40 [illegible] Q [illegible]
[illegible] %1 [illegible] Q [illegible]
(1.070 [illegible] 1985 – 1998) [illegible] Q [illegible]
[illegible]
[illegible]
(Raoult *et al.*, 2000) [illegible].

[illegible]
[illegible] Q [illegible] %65 [illegible] 92 (%11) [illegible]

Palmer and Young,) [illegible] 10 [illegible] 839 [illegible] 313 [illegible] 259 [illegible] .(1982

.(Raoult *et al.*, 2000) [illegible] 28 [illegible] (1987) [illegible] 20 [illegible] 1 [illegible] %89 [illegible] (%86) [illegible] 28 [illegible] %46 [illegible] .(%80) [illegible] (%68) [illegible] (%60) [illegible] %39 [illegible]

.(Fenollar *et al.*, 2001) [illegible]

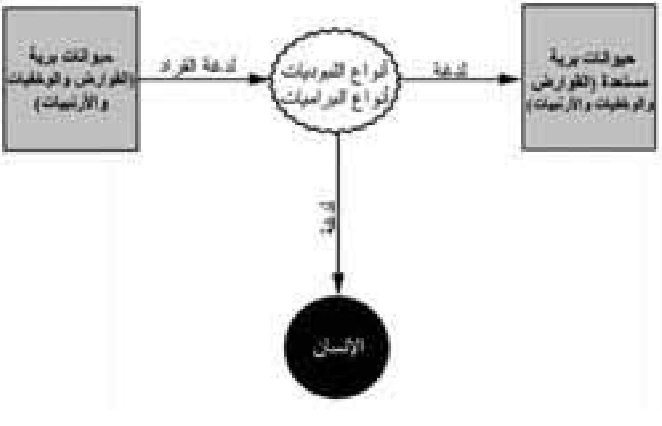
[illegible] .(Chin, 2000) [illegible]

[illegible]

.1974

.(Crowther and Spicer, 1976)

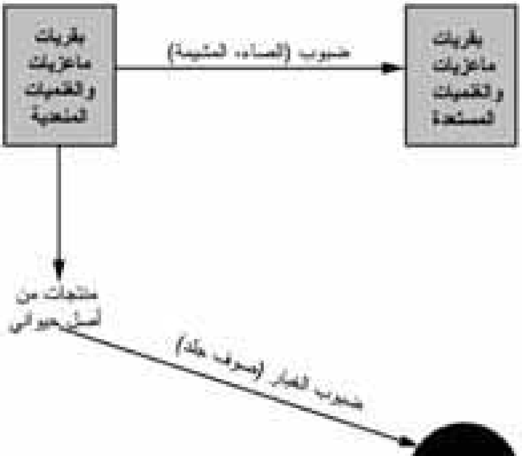
%7 %2



ÀÀÀÀ/ƟøφÀǯöä ȷζφÀõ ƙǽ ǦÈìÀȶŸö ȝÈÛȩ Ž ğÀȓÀƬǅɋä ȸȵ ǦÈìÀζ ǨǪÆǵ ˙äÆÀõ Ž
ğÀÖŸÀŸö ÀÈĦȗȩ ÀǽÀƬǪöä Àǵζȓş Àǯõɉä Ǧζǿä ǨφÀõ ·ǦÀζè ǦǅǄɉä ʔÆö 1992 ŌÀÀäǛ/ȷÀÊÈφş
34 Ōȝ ÀÀǩş ÛǦÈǪÈφøζǦöä ǦÈŸÈÊõζÒöä ğåÀÀǪèä ·ÀȝÀţä ȸȵ 33 ȸȵ 11 ǨȐƬǅǛ ·cotyledons
ÀƬşǛ ·(äÀÈöǛ) ǷÀøφɋÀǽ ÙǦǨÀţä Ɵȝ ÀÀţä ÀǪȶţä ǦÊÀÀÔȵ Ž ƟøäÀƶǛ ŌÒÎǽ Ǧ8öÀǽ ʔǯφǛ 40 ȸȵ
Ž ǨφÀõ ǨȐƬǅǛ ƟøǪöä ÀȝÀţä ȸȵ 11 ȸȵ 8 ȷǛ ʔşÆȞöä Ōòǚ ȝǦǪǪö ƟəÀǽζöä öÀÔŐǪèɍä
Ž Q ʔȶɯ äζǦÈòǛ Ōȩɉä ʔŸȝ îÀÁìǛ 6 ȷǛ ƙǦǨ ÆŐζ ˙Ōöǽ БǛ ǦζÀȓǛ ·ǦÈìÀȶŸö ȧζè
ȯÆȞȵ Ž ǥåÀÀä ÀȐÀǛ äÆÀõ ğÀƬşǛ ÀȶõÛ(Sanford *et al.*, 1993) ȧζÊŸö ǦÈöÀǪöä 12 ÀƬìɉä
ŌȶǪǂä ȸȵş Û(Marrie, 1990) ǦÀÆȞÀţä ǦǅǄäÆöä ÀζäζΣä ğäşǽ Ž ğÀòɎȵɋäş ğÀȓÀƬǅɋä
·ÀȐÀǛ ʔÀńǛ ȷäÆŸǽ Ž ǫÆƠ ǦȝÂøÀöä ȻØȽ ȷζÒǩ ȷǛ
·ǦÀƎöä ğÀφäζÈΣä Ž ǦÈȞÈǦÛöä ʔşÆȞöä ȧÀÊȵ ȯζǵ ŌÈŸŐöä ȣÀȞÀ

ÀƵÂÈÈɋ ȸÒɛ ʔşÆȞŸö ȷÀǪŐŸǵ õÀÀȽ :(ȝş 2 ȷɎÒÎöä) ȯÀŐǪφɍä äÀüş ʔşÆȞöä øÆÔȵ
Ž ǦÈφÀǯöäş Û(ƟÊÈəø ŌÒÎǽ ÀȝÀţäş ÛɏÀÀɋɉäş ǦÈìÀţä) ǦǅǄäÆöä ğÀφäζÈΣä Ž Бşɉä ÛǦȞÈǦÛöä Ž
·ğäåäÀŐöä ǦòÀǹ ÛǦÈφäƎöä ÀǿÀÈŸÈÀüş ǦÀƎöä ğÀφäζÈΣä ƙǽ ŌȵÀȞöä øşÆÀ ǪÈǵ ǦÈȞÈǦÛöä øüǦöä

·ǦǅǄäÆöä ǦŐŸΣä ¯ ȯÀŐǪφɍä :Q ʔþ :3 ŌÒÎöä



[illegible] Isotypes [illegible] (Sawyer *et al.*, 1987) [illegible]

(Aitken *et al.*, 1987) [illegible] %90 [illegible] %65

%50 resuspension %92

Hunt *et al.,*) .(1983

.(Ascher *et al.,* 1983)

[illegible] induration [illegible] .(Williams *et al.*, 1992) [illegible] 4.000 [illegible] .1984 – 1981 [illegible] 8 [illegible] 97 [illegible] .(Marmion *et al.*, 1990) [illegible] 98 [illegible] 7 [illegible] 15 [illegible] 102 [illegible] Shapiro *et al.*,) [illegible] .(1990

[illegible]

## ÙøШℇþøĎǁℇ


Adesiyun, A.A., A.G. Jagun, J.K. Kwaga, L.B. Tekdek. Shedding of *Coxiella burnetii* in milk by Nigerian dairy and dual purposes cows. *Int J Zoonoses* 12:1–5, 1985.

Aitken, I.D., K. Bogel, E. Cracea, *et al.* Q fever in Europe: Current aspects of aetiology, epidemiology, human infection, diagnosis and therapy. *Infection* 15:323–327, 1987.

Ascher, M.S., M.A. Berman, R. Ruppanner. Initial clinical and immunologic evaluation of a new phase I Q fever vaccine and skin test in humans. *J Infect Dis* 148:214–222, 1983.

Babudieri, B. Q fever: A zoonosis. *Adv Vet Sci* 5:81–182, 1959.

Bell, J.F. Q (Query) fever. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Blidaru, I., N. Lamba, C. Petrescu, C. Drumea, M. Ghica, G. Mateescu, *et al.* [Outbreak of Q fever in a municipal abattoir]. *Rev Ig Bacteriol Virusol Parazitol Epidemiol* 27:179–184, 1982.

Blidaru, I., C. Petrescu, M. Stan, I. Radu, D. Luta, N. Lamba, *et al.* [Clinico-epidemiological considerations on an outbreak of Q fever in the Arges region]. *Rev Ig Bacteriol Virusol Parazitol Epidemiol* 25:171–174, 1980.

Buckley, B. Q fever epidemic in Victorian general practice. *Med J Aust* 1:593–595, 1980.

Burgdorfer, W. Q fever. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Chin, J.C., ed. *Control of Communicable Diseases in Man*. 17th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 2000.

Ciecierski, H., K. Anusz, K. Borko, *et al.* [Occurrence of antibodies against *Coxiella burnetii* in wild animals in natural foci of Q fever, 1985–1988]. *Med Wet* 44:652–654, 1988.

Crowther, R.W., A.J. Spicer. Abortion in sheep and goats in Cyprus caused by *Coxiella burnetii*. *Vet Rec* 99:29–30, 1976.

Dupuis, G., J. Petite, O. Peter, M. Vouilloz. An important outbreak of human Q fever in a Swiss Alpine valley. *Int J Epidemiol* 16:282–287, 1987.

Evenchik, Z. Q fever. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Fenollar, F., P.E. Fournier, M.P. Carrieri, G. Habib, T. Messana, D. Raoult. Risk factors and prevention of Q fever endocarditis. *Clin Infec Dis* 33(3):312–316, 2001.

Fiset, P., R.A. Ormsbee. The antibody response to antigens of *Coxiella burnetii*. *Zbl Bakt Abt I* 206:321–329, 1968.

Gerth, H.J., U. Leidig, T. Riemenschneider. [Q fever epidemic in an institute of human pathology]. *Dtsch Med Wochenschr* 107:1391–1395, 1982.

Giroud, P., M. Capponi. *La fièvre Q ou maladie de Derrick et Burnet*. Paris: Flammarion; 1966.

Hall, C.J., S.J. Richmond, E.O. Caul, N.H. Pearce, I.A. Silver. Laboratory outbreak of Q fever acquired from sheep. *Lancet* 1:1004–1006, 1982.

Harvey, M.S., G.B. Forbes, B.P. Marmion. An outbreak of Q fever in East Kent. *Lancet* 2:1152–1157, 1951.

Heard, S.R., C.J. Ronalds, R.B. Heath. *Coxiella burnetii* infection in immunocompromised patients. *J Infect* 11:15–18, 1985.

Higgins, D., T.J. Marrie. Seroepidemiology of Q fever among cats in New Brunswick and Prince Edward Island. *Ann N Y Acad Sci* 590:271–274, 1990.

Holland, W.W., K.E.K. Rowson, C.E.D. Taylor, *et al.* Q fever in the RAF in Great Britain in 1958. *Br Med J* 1:387–390, 1960.

Hunt, J.G., P.R. Field, A.M. Murphy. Immunoglobulin response to *Coxiella burnetii* (Q fever): single-serum diagnosis of acute infection, using an immunofluorescence technique. *Infect Immun* 39:977–981, 1983.

Kosatsky, T. Household outbreak of Q-fever pneumonia related to a parturient cat. *Lancet* 2:1447–1449, 1984.

Kumar, S., M.P. Yadav. Note on coxiellosis (*Coxiella burnetii*) infection in amphibians. *Ind J Anim Sci* 51:390–391, 1981.

Lang, G.H. Q fever: An emerging public health concern in Canada. *Can J Vet Res* 53:1–6, 1989.

Lang, G.H., D. Waltner-Toews, P. Menzies. The seroprevalence of coxiellosis (Q fever) in Ontario sheep flocks. *Can J Vet Res* 55:139–142, 1991.

Ley, H.L. Q Fever. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

Lorbacher, H., J.B. Suárez. Fiebre Q en Antioquia. *Antioquia Med* 25:37–42, 1975.

Lumio, J., K. Penttinen, T. Pettersson. Q fever in Finland: Clinical, immunological and epidemiological findings. *Scand J Infect Dis* 13:17–21, 1981.

Marmion, B.P., R.A. Ormsbee, M. Kyrkou, *et al.* Vaccine prophylaxis of abattoir-associated Q fever: Eight years' experience in Australian abattoirs. *Epidemiol Infect* 104:275–287, 1990.

Marrie, T.J. Q fever—A review. *Can Vet J* 31:555–563, 1990.

Marrie, T.J., D. Langille, V. Papukna, L. Yates. Truckin' pneumonia—An outbreak of Q fever in a truck repair plant probably due to aerosols from clothing contaminated by contact with newborn kittens. *Epidemiol Infect* 102:119–127, 1989.

McCaul, T.F., J.C. Williams. Developmental cycle of *Coxiella burnetii*: Structure and morphogenesis of vegetative and sporogenic differentiations. *J Bacteriol* 147:1063–1076, 1981.

Meiklejohn, G., L.G. Reimer, P.S. Graves, C. Helmick. Cryptic epidemic of Q fever in a medical school. *J Infect Dis* 144:107–113, 1981.

Ormsbee, R.A. Q fever rickettsia. In: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Ormsbee, R.A., E.J. Bell, D.B. Lackman, G. Tallent. The influence of phase on the protective potency of Q fever vaccine. *J Immunol* 92:404–412, 1964.

Ortiz Molina, H., R.M. Caffarena, R.E. Somma Moreira. Fiebre Q: tres brotes en un frigorífico del Uruguay. *Vet Argentina* 4(31):58–63, 1987.

Palmer, S.R., S.E. Young. Q-fever endocarditis in England and Wales, 1975–81. *Lancet* 2:1448–1449, 1982.

Pavilanis, V., L. Duval, A.R. Foley, M. L'Heureux. An epidemic of Q fever at Princeville, Quebec. *Can J Public Health* 49:520–529, 1958. Cited in: Lang, G.H. Q fever: An emerging public health concern in Canada. *Can J Vet Res* 53:1–6, 1989.

Quignard, H., M.F. Geral, J.L. Pellerin, A. Milon, R. Lautie. La fièvre Q chez les petits ruminants. Enquête épidémiologique dans la région Midi-Pyrénées. *Rev Med Vet* 133:413–422, 1982.

Raoult, D., H. Tissot-Dupont, C. Foucault, J. Gouvernet, P.E. Fournier, E. Bernit, *et al.* Q fever 1985–1998. Clinical and epidemiologic features of 1,383 infections. *Medicine* 79(2):124–125, 2000.

Reinthaler, F.F., F. Mascher, W. Sixl, C.H. Arbesser. Incidence of Q fever among cattle, sheep and goats in the Upper Nile province in southern Sudan. *Vet Rec* 122:137, 1988.

Richardus, J.H. A.M. Dumas, J. Huisman, G.J. Schaap. Q fever in infancy: A review of 18 cases. *Pediatr Infect Dis* 4:369–373, 1985.

Riemann, H.P., D.E. Behymer, C.E. Franti, C. Crabb, R.G. Schwab. Survey of Q-fever agglutinins in birds and small rodents in Northern California, 1975–76. *J Wildl Dis* 15:515–523, 1979.

Ruppanner, R., D. Brooks, C.E. Franti, D.E. Behymer, D. Morrish, J. Spinelli. Q fever hazards from sheep and goats used in research. *Arch Environ Health* 37:103–110, 1982.

Sanford, S.E., G.K. Josephson, A. McDonald. Q fever abortions in a goat herd. *Can Vet J* 34:246, 1993.

Sawyer, L.A., D.B. Fishbein, J.E. McDade. Q fever: Current concepts. *Rev Infect Dis* 9:935–946, 1987.

Schneider, T., H.U. Jahn, D. Steinhoff, *et al.* [A Q fever epidemic in Berlin. The epidemiological and clinical aspects]. *Dtsch Med Wochenschr* 118:689–695, 1993.

Serbezov, V.S., J. Kazar, V. Novkirishki, N. Gatcheva, E. Kovacova, V. Voynova. Q fever in Bulgaria and Slovakia. *Emerg Infect Dis* 5(3):388–394, 1999.

Shapiro, R.A., V. Siskind, F.D. Schofield, *et al.* A randomized, controlled, double-blind, cross-over, clinical trial of Q fever vaccine in selected Queensland abattoirs. *Epidemiol Infect* 104:267–273, 1990.

Sobradillo, V., R. Zalacain, A. Capelastegui, *et al.* Antibiotic treatment in pneumonia due to Q fever. *Thorax* 47:276–278, 1992.

Somma-Moreira, R.E., R.M. Caffarena, G. Pérez, S. Somma-Saldias, M. Monteiro. Fiebre Q en el Uruguay. (unpublished).

Spinelli, J.S., M.S. Ascher, D.L. Brooks, S.K. Dritz, H.A. Lewis, R.H. Morrish, R.L. Ruppanner. Q fever crisis in San Francisco: Controlling a sheep zoonosis in a lab animal facility. *Lab Anim* 10:24–27, 1981.

Stoker, M.G.P., B.P. Marmion. The spread of Q fever from animals to man. The natural history of rickettsial disease. *Bull World Health Organ* 13:781–806, 1955.

Weiss, E., J.W. Moulder. Rickettsiales Gieszczkiewicz 1939. *In*: Krieg, N.R., J.G. Holt, eds. Vol. I: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Williams, J.C., M.G. Peacock, D.M. Waag, *et al.* Vaccines against coxiellosis and Q fever. Development of a chloroform:methanol residue subunit of phase I *Coxiella burnetti* for the immunization of animals. *Ann N Y Acad Sci* 653:88–111, 1992.

Yadav, M.P., M.S. Sethi. A study of the reservoir status of Q fever in avifauna, wild mammals and poikilotherms in Uttar Pradesh (India). *Int J Zoonoses* 7:85–89, 1980.

Zdrodovskii, P.F., H.M. Golinevich. *The Rickettsial Diseases*. Oxford: Pergamon Press; 1960.

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## QUEENSLAND TICK TYPHUS

**ICD-10 A77.3**

**ICD-10 A77.3 Spotted fever due to *Rickettsia australis***

*R. australis* . Tasmania (Flinders

.(Baird *et al.*, 1992)

.(Graves *et al.*, 1993)

[illegible] (1.000) [illegible] .1989 [illegible] 12 [illegible] 10 [illegible] 17 [illegible] %1 [illegible] .(Graves *et al.*, 1993) [illegible] 24 [illegible]

[illegible] 312 [illegible] %11.2 [illegible] %15 [illegible]

[illegible] %89 [illegible] :*Rattus Fuscipes* [illegible] Graves *et*) [illegible] %22 8 [illegible] 37 [illegible] .(*al.,* 1993

[illegible] maculer [illegible] eschar [illegible]

[illegible] .(Sexton *et al.,* 1991)

[illegible] .*tasmani* [illegible] *Ixodes holocyclus* [illegible] .*cornuatus* [illegible] *Aponomma hydrosauri* [illegible]

[illegible] .ẏ °34.5

[illegible]

ÙøШƐþøǅǁƐ

Baird, R.W., M. Lloyd, J. Stenos, *et al.* Characterization and comparison of Australian human spotted fever group rickettsiae. *J Clin Microbiol* 30:2896–2902, 1992.

Burgdorfer, W. Queensland tick typhus. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Graves, S.R., L. Stewart, J. Stenos, *et al.* Spotted fever group rickettsial infection in south-eastern Australia: Isolation of rickettsiae. *Comp Immunol Microbiol Infect Dis* 16:223–233, 1993.

Pickens, E.G., E.J. Bell, D.B. Lackman, W. Burgdorfer. Use of mouse serum in identification and serologic classification of *Rickettsia akari* and *Rickettsia australis*. *J Immunol* 94:883–899, 1965.

Sexton, D.J., J. Banks, S. Graves, *et al.* Prevalence of antibodies to spotted fever group rickettsiae in dogs from southeastern Australia. *Am J Trop Med Hyg* 45:243–248, 1991.

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## RICKETTSIAPOX Ĭ ƨƗǀĭþǁƐ Ƨ ƶǋǁƐ

***ƕĭǅǰƉǁƐ ƕĭ ƨƗǀĭþǁƐ*** ǅY !ШƑǁƐ ă þƘǴǁƐ ǀ Ƒĭ ƨƗǀĭþǁƐ ƀƐą **ICD-10 A79.1**

**ICD-10 A79.1 Pustular rickettsiosis due to *Rickettsia akari***

ƟŋÂÕŁÕä ƟÊǪȮǺÀ̈ä ŏäÆä Ûȷ ảøÀǅ ʐƗõ ʔþ ÛƟŶÔʐΣä ğÀƗÊǪȮǺÀ̈ä ŏäá ·ğÀʐáäÀţä .gamaso-rickettsiosis varicelliformis ŐȮÎä ƟęÀŁΣä

*Dernacentro-* ***ȸøüÀä ŐǅøƚäȸʐŞŋ)*** *Rickettsia akari* ***ǴŁǰΣä ǴƗÊǪȮǺÀ̈ä*** ·ğÀƗǴǴÊä ÆǴÊǩ Ɵø ǫä ğÀƗÊǪȮǺÀ̈ä Ǯʒʐʈƒ БÜ ĘƗęÆä ƟΣä ȸəÀÕä äØĿ ƟŁǪÀ ·(*xenus murinus* Ž ÀƗǪÜø ȸÔʅ coccobacillus (ǵøʐÔʒ) ǵøʐÒŋ ǴʐÔʒ ***ǴŁǰΣä ǴƗÊǪȮǺÀ̈ä*** ·ǴƗŎǴǴä ʔŁΣä ·ʔÆŘÀţä øüÀä ǰƗÊǫ ȸŋ ǴǫʐŸţä ǴƗǅʐŏʐǪÊƗTä ʒùÀÕţä Ž БʐƗTäş ǵäʐÀöä

·ǵÆĦǪţä ğÀƗƦʐöä ȸŋ ʔÀǹÜ ȷÆŋ Žş ōøʐÀʐƗǫ ǴÀƗÆŋ Ž ô Àţä ÆǅŞ ·ŽäÀȣƨä ţàʐǪöä ·ǴƗõÀøÀŋ ȷäæÀǅ ȸŋ ÀŘÀÜ ŌŋÀŘöä åÀÀǪèä ǬƗǵ ÛÀƗǫäÀõşÜ Ž ȼæÀÎŋ ô Àŋ ȸʒ ŋƗŸǴǪöä Ź ÀŁõ ȷÀÒÊä ƙä ϙÆʒ äØĿ ğÀƗÊǪȮǺÀ̈ä ŏäá ȷÜ ˉ ǴÀÀÀè ğÆĿÀÎŋ ʔŸʒ ƗáÀŁǪʒä ˉ ÆŐǪĤÀ ·(ƗȒÀÜ ǴƗǅʐöşƘè ǴÀƗä ÆǅʐǨ ǬƗǵ) ÀƗŐÀÀʐÜ ā ʐÀǅʐş ǴƗəäʐǪèȓä ÀƗŐÀÀʐÜ Ž natives ƙƗŸòƚä Ž ǫÆǵ ô Àţä ȷÜ ʔÛèʐöä ÀȮÀÀŋÜ Ž ǨÀÀǅʐÜ ǴƗǅʐöşƘè ǴèäøáǨǵşÜ ·Õöæ БÜ ǴʐÀȓÜ ***ƷȮĤä)*** vole ŐŐΣä øüʐ ȸŋ ***ǴŁǰΣä ǴƗÊǪȮǺÀ̈ä*** ğáÀÀǪèä ÆŐʐ ·ÀÀøʐõ Ž Àŋ̈Ü ·ÀȮÀøÀǪèʐõ

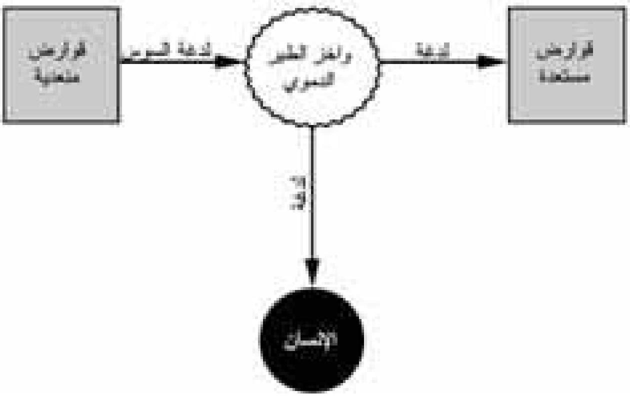
Radulovic *et)* (*Microtus fortis pelliceus*
.(*al.,* 1996

1946 144 180
1979 5
(Brettman *et al.,* 1981)

(*Rattus* (*Mus musculus*
*Liponyssoides sanguineus*
(*Allodermanyssus*

.varicelliform
24 – 9
(Brettman *et al.,* 1981)
.(Brettman *et al.,* 1981) 5 – 2 6 250

·ȯÅÕϙɍä ǦÕŸǵ – (ǦȽȽȤΣä ǦȄÊϘȮ˩Ȁöä) ȖÊϘȮ˩Ȁöä Èȩɀöä :4 ŌȮÎöä



Ꝃɖ ʔÀṅɉä ôǿäɀÕöäȿ ɉäÀÅÅöä Ž ʔȿÆȞŸö ȖȞȄǴÛöä ǿÆÔţä :ğÅφäɀȄΣä Ž ôÀţä ŌṅäǺ ǴȄŌŸϘöä ÆǴÊȀ ·Ǵɜ3ÅÂÛòɍä ʔȿÆȞŸö ꝂǴõ ŌȮÎæ ǥÆȞϘÊɳ ɜϘÅţä ɉäÀɀ ·ȣȿÀȞɳ ɜɳ ȧÅÂÔöä āÅɫϘöä ÆǴÊȄɀ ȧÅÂÔöä ŌṅäǺ ÀɳÛ ÛȞŸȞÅȩ ɉɀȮȀ Åɳ ȄǴöÅɖ ÛȞȀɀəǿ ȄäÅɫϘöä Ɀφɉä ÆȞæ [18]ȿ [9] ӯɀȄöä Ꝃæ ğɀţä ϙÆ3 ·ȯÅȞȗÛöä ȴÅȒȟȿ ǦȄÀȽŸöä ÆÕȞöä āÅɫϘöäȿ ÛǦȀɀɳǺ ǦȞȗȒφ ·Ǧ3ɀÅöä ǪȄǵ ȡɳ ǦȽȽΣä ǦȄÊϘȮ˩Ȁöä Ƀǿäǿæ Ɀ ŸϘơ ·ǴȄÕŸϘöä

ǦȺȡZäÆȄöä ɉäÀÅÅöä ȖȽ ǦȄÊȄəÀöä ğÅ3ǻɀϘÊţä :(4 ŌȮÎöä) ȯÅÕϙɍä äÀüȿ ʔȿÆȞöä ǿÆÔɳ Ž ·ȒȄǴţä Ƹ3 ȯÅÕϙɍÅæ ğÅȄÊϘȮ˩Ȁöä ÀÅÀɋ 3ȄÛϘÊȀ Ƀǿöä Ƀɀɳǻöä ꝂÛöä ÂṅǻȿꞏāɀÊöäȿ ȴȡZÅő Æȩȿ ÛǦȺȡZäÆȄöä ɉäÀÅÅöä ʔŸ3 ɳϘÅǴöä āɀÊöäȿ ğäȿäǿɀΣä ʔǿ8ϘǨ :ǥÆȞϘţä ğÅȀɍɀöä ǦÕŸǵ õÅȀȽ ɉɀȮǨ ɉÜ ȡȮȽţä ȡɳ ·(Weiss and Moulder, 1984) ɉÊφϙäȿ ʔÀṅÜ ğÅφäɀȄǵ ôÀţä ɉÜ ÆÕϘȞȀ ÅȽõ ·ÅȀǿɀõ Ž ɃÀæ ôǿÅȩ ȡɳ ŌɳÅȞöä ǻäÀÅϘèä ȼæ ʔǵȿÜ Åɳ äǾȽȿ ÛȞȒȀÜ ǦȀÀæ ·ȄȽÕȀȀɀÜ āɀȡZ " ȯÅɖäÜ " Ž ϙÆ3

āÅòÜȿ ÛɉÆɳ Ž ǦȄöäǿÆȄÅöä ÅȄèȿǿȿ ǥÆȞϘţä ğÅȀɍɀöä ȡɳ Őõ Ž ȖÊϘȮ˩Ȁöä Èȩɀöä ϙÆǵ ÀṅǓ ƂÜ ǿüɀ ȡɳ ȖǿǴǴÊöä ŌɳÅȞöä ŌÕϘφä · ôǿäɀÕöÅæ ǥÀÎϘȚ ȯäÅÅɳ Ž ɉɀÎȄȞȀ ȄòÅÂǺÌÜ ţǻɀÊţä ɀȽ āɀÊöä ȄǿȽ ɉÅõ Åɳǿ ·ɉÊφϙä ƂÜ ȄφÅȄǵÜȿ ÛȾȡZɳÄö ƂȾȡZÅöä Ʀäǿä ȿ :āɀÊöÅæ ӯÆƩ Æȩȿ ʔȿÆȞöä ŌϙÅφ ȡȽ ȾȡZɳÄöä ƂÜÅȀȽ ɉɀȮȀ Æȩ ŌõöØȿ ·ŌɳÅȞŸö ȖÊȄəÀöä ƂÅǿÅţä ǿüÀöä ɉÜ ȴǿǿ ÛȄȒȀÜ ʔÀṅÜ ôǿäɀȿ ɉäÆÀɀä ʔŸ3 ŌȩÅÀöä ʔǿ8ϘȀ ·ȄȒȀÜ ȼö ţɀȞϘÊȽõ

[illegible] .(Harwood and James, 1979; Bell, 1981) [illegible]

[illegible]

[illegible] $^{4-3}$ [illegible]

[illegible] .(Benenson, 1990) [illegible]

[illegible]


Bell, J.R. Tick-borne fever and rickettsialpox. In: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*, 2nd ed. Ames: Iowa State University Press; 1981.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Brettman, L.R., S. Lewin, R.S. Holzman, *et al.* Rickettsialpox: Report of an outbreak and a contemporary review. *Medicine* 60(5):363–372, 1981.

Burgdorfer, W. Rickettsialpox. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Harwood, R.F., M.T. James. *Entomology in Human and Animal Health*, 7th ed. New York: Macmillan; 1979.

Ley, H.L., Jr. Rickettsialpox. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

Radulovic, S., H.M. Feng, M. Morovic, B. Djelalija, V. Popov, P. Crocquet-Valdes, *et al.* Isolation of *Rickettsia akari* from a patient in a region where Mediterranean spotted fever is endemic. *Clin Infect Dis* 22(2):216–220, 1996.

Weiss, E., J.W. Moulder. Rickettsiales Gieszczkiewicz 1939. *In*: Krieg, M.R., J.G. Holt, eds. *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.
Woodward, T.E., E.B. Jackson. Spotted fever rickettsiae. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.
Zdrodovskii, P.F., E.H. Golinevich. *The Rickettsial Diseases*. Oxford: Pergamon Press; 1960.

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# [illegible]
# ROCKY MOUNTAIN SPOTTED FEVER

**[illegible] ICD-10 A77.0**
**ICD-10 A77.3 Spotted fever due to *Rickettsia rickettsia***

macular [illegible] petetchial [illegible] pinta [illegible] Choix [illegible] .(*Dermacentroxenus* [illegible] protype [illegible] Raoult and Walker,) [illegible] phagosome .(1990

[illegible]

[illegible] 1973 [illegible] 1970 [illegible] 528 [illegible] 4.411 :1980 – 1977 [illegible] 1981 [illegible] 1.170 [illegible] 1.103 [illegible] 100.000 [illegible] 0.25 [illegible] 1989 [illegible] 603 .1989 (CDC, 1990) [illegible] %1.1 [illegible] 1982 [illegible] %4.7 [illegible] .(CDC, 1991) %7.6 [illegible] 649 [illegible] :1990 [illegible] 1930 [illegible] 1910 [illegible] (%37.1) 224 [illegible] .(*Dermacentor Variabilis* [illegible]) [illegible] (%16.6) 100 [illegible] 603 100.000 [illegible] 1.9) [illegible] .(CDC, 1990) ([illegible] 100.000 [illegible] 1.8) [illegible] 9 – 5 [illegible] 487 [illegible] %63 [illegible] .(CDC 1990) [illegible] 20 [illegible] 5.2 [illegible] .(Bernard *et al.*, 1982) [illegible]

[illegible] .(*Sylvilagus* [illegible]) [illegible]

Weiss and) [illegible] .(Moulder, 1984; Raoult and Walker, 1990

[illegible] .(Smith *et al.*, 1983) [illegible] 73 [illegible] %45.2

[illegible] huskies [illegible] .(Breitschwerdt *et al.*, 1985) [illegible] 12 [illegible] 7 [illegible] 5 [illegible]

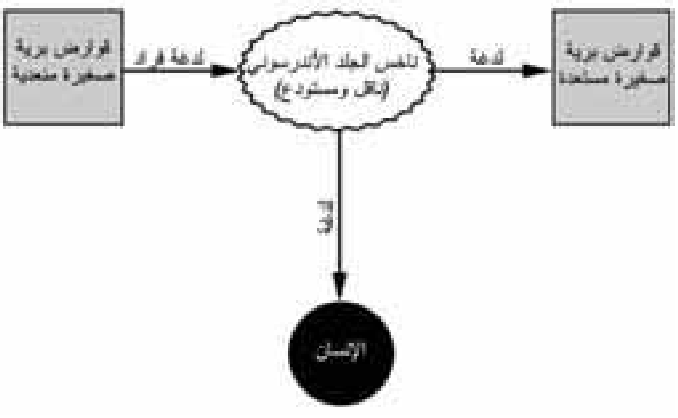
[illegible] 14 – 2 [illegible] °40 [illegible] Raoult and) [illegible] 6 – 3 [illegible] .(Walker, 1990 [illegible] %80 [illegible] delirium [illegible] Kirkland *et*) [illegible] 30 [illegible] .(*al.*, 1993

[illegible] %4.5 [illegible]

.(CDC, 1990) %1.2 БÜ

ÆÀ3 ÀTŢǨ Æę ·ƙÀƎöä ŏÀÀζǭƭä ĻŢĤŋ Ž ĝÀĿÀş Ƙɖ ʔşÆĤöä :ğÀǿäζΣä Ž ô Àţä ÀTÀÆö ÒÂì ¯ ā Ɏõ [4] ȸŋ [3] ʔÆö ȷÀõ ·ĞÀÀÀè ô äÀ3Ü ÀĤĞù şÜ ÀĞÀÀθ ĞÀÆĤÀţä ā ɎÒöä ÛĝÜǿÜǿş ÿäζɸ ƙÀǭä ÆÀ3 ÀTşş ·ĻTęş ā ÀÀǬõäş ɄøÀÛä ƁÜş ĞÈöÀ3 ʔƥ ¯ ÀĐζöşƘè ô Àţä ÇÆÀ3 ÀTŢǨ ĻŸζ 3äàÀöä ÀŋÜ ÛĞÀζȶÀöä ĞÈùÀÂţä Ž ĞÀƎǵ ȣşÂøɸş ĞȶĤǬŸŋ ā ÀTǬöä ǬöÀǬ ÆÀ3ş ·ĞÀÀÀè ô äÀ3Ü

·ĝÆĤǬţä ğÀƭζöä Ž ȯÀÕǬɸƭä ĞÕŸǵ ¯ ĞÈĤÕĞöä ĞÀÀÂÔöä ȯÀĞƨä ʔƥ :[5] ŌÒÎöä

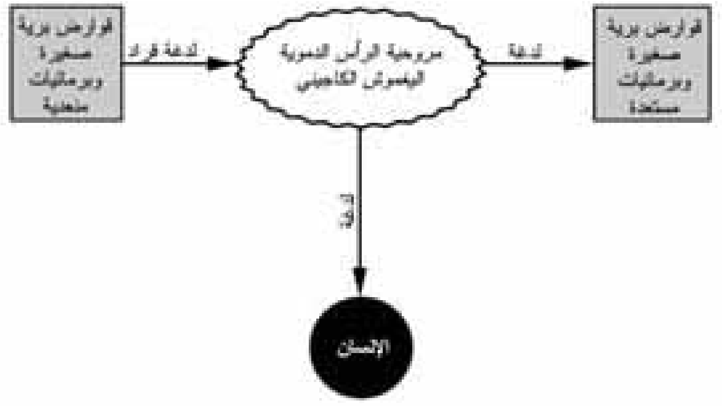


ÛÀÒĞŋ ÀȶȜ Ž ĞÆÊǬÒÀÀöä ĞÆÊǬÒÀÀö ĞɸζùζţäĘùÀÀţä Ž ā ɎÒöä ô ÀĤǬÀ ȷÜ ŌȶǬǂä ȸŋ ā ɎÒöä ô ÀĤǬǨ ÀŋÆÀ3 :ÕöØäş Û ô Àţä ȸŋ ĻÈǹş ŌÒì ȸŋ ÀTÀÔƠ ĞÈŋζŋƭä ǻäÆȑ ƭä ȷÜş .(Lissman and Benach 1980) ĞÀÀÀÊöä ʔşÆĤöä ÿşÀÖǨş Ō3Àζ ŌÒÎä ĞĤÀư ȷζÒǨ ÆĤä ÀȶÈζ ǰÈƱ ÛĻTę Ûÿäζɸ :[1985] ÿÀ3 ǿƥÀζøş ǻƘÀÎǨÀä ÀTÀòş ĞÈìÀζ Ž ĞÈöÀǬöä ô äÀ3ƭä ğÆĿζì ÆÕĤöä ĻÂȒǨş ʔƥş ÛĞĞŸÔöä Ž ĞÀζŋÆöä ĞÈ3şƭä ȷÀÕǬǵä ÛĘèÀÀǨ ÿÆ3 ÛɄøÆ3ş ɄÀǿÜ Ûğ ƭÀǵ 3äøÜ ȸ3 ÀÀÀÕǨ Ž ·ĞÈŸÔÀζΣä ĞÈĞÔÕöä ğäζòƭä ĝÀÀäş ȯÀĤǬÛöä ĻÂȒǨş ÛĞÈÀȶŸöä Ž ĞÀÀƳ ĞÀÆŸĐ ğÀζÜ ğøζÛǨ ÆÕζ Û ô Àţä ȸŋ ĞÀŸǬƯ ğÀŋɎ3 ȸŋ ā ɎÒöä ĝÀǿÀĤŋ БÜ ĞζÀȓÜş ȷÀõ .(Weiser and Green, 1989) ȣäÀùƭäş ğÀȶÈŸΣäş ȤɸƭäşȷæƭäĞŸÀÆèş ȸÀÔöä ÆĤä ƘÈÀì ĞÀÈÀǹ ĞÈÆ3 ğÀζÜ ÀĐζöşƘè ÀĿÆÀ3 ÒÈÂÎǬöä ƘĞǬÜ ÀĞŸõ [11] ȸŋ ā Ɏõ [9] ʔÆö

[illegible] (Davidson *et al.*, 1989) [illegible] .(Feng *et al.*, 1979) [illegible]

[illegible] .*Amblyomma cajnnense* [illegible] *Sylvilagus* [illegible] *Leporispalustris* .(Fuentes *et al.*, 1985) [illegible] (*Sylvilagus* [illegible] .(Burgdorfer *et al.*, 1980) [illegible]

[illegible]



reacrivate

6 – 4

[illegible]

[illegible] antecedent [illegible]

[illegible] .(CDC, 1990) (%70 – %50 [illegible]) [illegible] 6 – 4 [illegible] 5 [illegible] 4 [illegible]

[illegible] .(Sexton *et al.*, 1994) [illegible]

.(Clements *et al.*, 1983a) [illegible] 6 [illegible]

[illegible] (%25 [illegible] .(Clements *et al.*, 1983b) [illegible]

[illegible]


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Bernard, K.W., C.G. Helmick, J.E. Kaplan, W.G. Winkler. Surveillance of Rocky Mountain spotted fever in the United States, 1978–1980. *J Infect Dis* 146:297–299, 1982.

Bier, O. *Bacteriologia e immunologia*, 12th ed. São Paulo: Melhoramentos; 1965.

Breitschwerdt, E.B., D.J. Meuten, D.H. Walker, *et al.* Canine Rocky Mountain spotted fever: A kennel epizootic. *Am J Vet Res* 46:2124–2128, 1985.

Burgdorfer, W. Rocky Mountain spotted fever. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Burgdorfer, W., J.C. Cooney, A.J. Mavros, W.L. Jellison, C. Maser. The role of cottontail rabbits (*Sylvilagus* spp.) in the ecology of *Rickettsia rickettsii* in the United States. *Am J Trop Med Hyg* 29:686–690, 1980.

Burgdorfer, W., K.T. Friedhoff, J.L. Lancaster, Jr. Natural history of tick-borne spotted fever in the USA. Susceptibility of small mammals to virulent *Rickettsia rickettsii*. *Bull World Health Organ* 35:149–153, 1966.

Clements, M.L., J.S. Dumler, P. Fiset, C.L. Wisseman, Jr., M.J. Snyder, M.M. Levine. Serodiagnosis of Rocky Mountain spotted fever: Comparison of IgM and IgG enzyme-linked immunosorbent assays and indirect fluorescent antibody test. *J Infect Dis* 148:876–880, 1983a.

Clements, M.L., C.L. Wisseman, Jr., T.E. Woodward, P. Fiset, J.S. Dumler, W. McNamee, *et al.* Reactogenicity, immunogenicity, and efficacy of a chick embryo cell-derived vaccine for Rocky Mountain spotted fever. *J Infect Dis* 148:922–930, 1983b.

Davidson, M.G., E.B. Breitschwerdt, M.P. Nasisse, S.M. Roberts. Ocular manifestations of Rocky Mountain spotted fever in dogs. *J Am Vet Med Assoc* 194:777–781, 1989.

Feng, W.C., E.S. Murray, G.E. Rosenberg, J.M. Spielman, J.L. Waner. Natural infection of dogs on Cape Cod with *Rickettsia rickettsii*. *J Clin Microbiol* 10:322–325, 1979.

Fuentes, L., A. Calderón, L. Hun. Isolation and identification of *Rickettsia rickettsii* from the rabbit tick (*Haemaphysalis leporispalustris*) in the Atlantic zone of Costa Rica. *Am J Trop Med Hyg* 34:564–567, 1985.

Kenyon, R.H., L.S. Sammons, C.E. Pedersen, Jr. Comparison of three Rocky Mountain spotted fever vaccines. *J Clin Microbiol* 2:300–304, 1975.

Kirkland, K.B., P.K. Marcom, D.J. Sexton, J.S. Dumler, D.H. Walker. Rocky Mountain spotted fever complicated by gangrene: Report of six cases and review. *Clin Infect Dis* 16:629–634, 1983.

Ley, H.L. Rocky Mountain spotted fever. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

Lissman, B.A., J.L. Benach. Rocky Mountain spotted fever in dogs. *J Am Vet Med Assoc* 176:994–995, 1980.

Murray, E.S. The spotted fevers. *In*: Hoeprich, P.D., ed. *Infectious Diseases*. Hagerstown: Harper & Row; 1972.

Raoult, D., D.E. Walker. *Rickettsia rickettsii* and other spotted fever group rickettsiae (Rocky Mountain spotted fever and other spotted fevers). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Sexton, D.J., S.S. Kanj, K. Wilson, *et al*. The use of a polymerase chain reaction as a diagnostic test for Rocky Mountain spotted fever. *Am J Trop Med Hyg* 50:59–63, 1994.

Smith, R.C., J.C. Gordon, S.W. Gordon, R.N. Philip. Rocky Mountain spotted fever in an urban canine population. *J Am Vet Med Assoc* 183:1451–1453, 1983.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Rocky Mountain spotted fever and human ehrlichiosis—United States, 1989. *MMWR Morb Mortal Wkly Rep* 39:281–284, 1990.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Rocky Mountain spotted fever—United States, 1990. *MMWR Morb Mortal Wkly Rep* 40:451–453, 459, 1991.

Weiser, I.B., C.E. Greene. Dermal necrosis associated with Rocky Mountain spotted fever in four dogs. *J Am Vet Med Assoc* 195:1756–1758, 1989.

Weiss, E., J.W. Moulder. Rickettsiales Gieszczkiewicz, 1939. *In*: Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Wolff, J.W. Tick-borne rickettsioses. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Woodward, T.E., E.B. Jackson. Spotted fever rickettsiae. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

# SCRUB TYPHUS Ĭ ǁʃ İ Ŭɛ ƨ Ǌ2ĬĦǁɛ

### *ħĭ ʅ ǊƷǊ ƨ ĦǊ ƨ Ħ ħĭ ƨ Ħ ĭþ* DžY ħDžǙʃ ƨ ǊĵĬĦɛ ĂDžɵ ICD-10 A75.3
### ICD-10 A75.3 Typhus fever due to *Rickettsia tsutsugamushi*

Ûâ ʐÊôÅ òʐŐÅţ â ʐÀȩ ʔƥ ÛTsutsugamushi ƟìʐɳÅɖ ʐÊʞʐÊʞ ŏáá ˙ğ ÅʐáâÀţ ˙ĞÀŸǷƯ ĞŸŢ ŏÀƨÛş ÛɃøâÆţ â ʐÀȩ

*ĞęÀÎ ĞÊǷÒÀ)* *Rickettsia tsutsugamushi* *Ğì ʐɳÅɖʐÊʞʐÊǷ ĞÊǷÒÀ* ˙ğ ÅƓÊ ĞǷÅɸʐÅ *typhos* ĞȶŸõ Ɵøħ ˙â ʐÀǷ Ğʒʐȶƒ Ƃ Ɵȶǫʞ Ɵøǫ̦ş (*R. orientalis* ɃøáøǾ ƙ ɃÆŘǷÊţ ÀÅ8ǷɃ ȸɳ ĞÀʒ ĞDZøá ōÀŁ Û" ʔƥ ȸʒ ȴDZÀŏ stupor òʐŁǾ" Æȑ ĞʒÀţ ˙Àǯō ōÀŁ ȷʐÒ Æęş ÛĞÆŘǷÊɳ prototypes ĞəÆ ȓÀŷ ĞɸÅɋ ÂÆǫ Ź ˙ĞÀŸǷÅţ Æǵ áʐÊ ˙ÙŐʐ ĞǷęűɳ ĞÀôÅţ ɃøáøǾ Æȑ ÀŒ ɼ Ûǥ ÆÆɳ homologus ĞŸÅȶţ ĞÀøǾ Shirai and Wisseman,) ĞɸʐüʐɳĞŐÛɳ Ž ĞŸÔɳ ȓÀŷ ǥÆʒ ÆDZâʐʞ Æʒ ĞŸÔţ ȓÀŷɟ ˙â ʐÊ ȸɳ ĞÀŸǷƯ ţâʐ ȸɳ ÅŢʒ òʐÔΣ Ź ǥáÀǷÊɳ 168 ȸɳ %68.5 ȷ ÆDZş ˙(1975 ÙȶÀŏ ǥÀÛè ʒɳ ÆǥáşÛɣ Ƀʐ ǷƠ ÀŒ ÆDZş ˙ÀÀÅɳ Ž *Leptotrombidium ŏÅȶÛʅá ĞÊǷÒÀ* ȸɳ ĞÀŸǷÅţ ɃøáøǾ ʐŸǷơ ˙(Shirai *et al.,* 1981) Karp ā øÅõ Ɵəǥ ˙ÅŢǷʒʐʐ Ž *Ğì ʐɳÅɖʐÊʞʐÊǷ*

ÅŢʐü Ùèʐǫɳ Ûğ ÀÊǷÒÀ À8òÛ ȸɳ ƟŁş ÛĞÔʒ *Ğì ʐɳÅɖʐÊʞʐÊǷ ĞÊǷÒÀ* Ž ÆDZ ʐȶʞ ˙ÂÆȶDZ ȷʐŸɳ ȸɳ ĞôÆţ ĞǺÊÀ şÛ ÀȶDZ ȷʐŸɳ ÅŢǷÛø ȸÒʐş Ûȷ şÀÒɳ 1.2 ȸɳ ǥʐÀ òʐǥ Ğǥ ÀÀ Ž ÆDZʐʞş ˙Ğ8Řţ ğ á ōʐ ȸɳ Ɵǂ ÈÒ Žş ĞÀʐŸʅ ţøÅţ ˙(Weiss and Moulder, 1984) ǥʐÀ ĞŐŐΣ ÅŸʅ

Ƃ ĞáøÆÀ Àèşø ȸɳ àÀÎ ʔÔęÛ Ž ɃşÀõ ƟÒèøʐʐÀ ȸɳ ˙ŽÀ8ƨ ţàʐǷ ÙǂÀì Ž øÂƨş ÀáÀǷèÛ òÀɒş ȷÀÊõÅş ȷÀÊɸÀ8ʐş ÆÀŢş Àèǔ àÀì āʐDZ ˙(ĞDZʐŏʐÒÀɋ) ĞÆƓ ȣşÀŢ ȸɳ ʒèş ʔÆɳ Ž ȨùÀţ ǾŁ Ž ʔşÆħ ÆDZʐʞ ˙ɃáÀŢ ˙ÀɼÅȶŁ Ž Æòɟ ǯşÀɳş ÛĞŸƓƨ ŏÀƕÔ ˙ŏÀƕÔ ȼƓì ÛĞÊəÀ (òÅɖáɟ) āÀ8 ƙǹɟ áǾŁ ˙ţáʐǷÊţ/ÔęÀ ÆõÀɳş ŌɳÀħ áʐDZş ʔŸʒ Æȶǫħ ȼɸɟ Ûğ şÀǫɳ ôÀţ ţàʐʞ

[illegible] trombiculid [illegible]

[illegible] 18.000 [illegible] %35.3 [illegible] %0.6 [illegible] 1974 [illegible] 1967 [illegible] 55 [illegible] %3.9 [illegible] %3.2 [illegible] .(Brown *et al.*, 1978) [illegible] 1950 [illegible] 1989 [illegible] 152 [illegible] 1982 [illegible] %90 [illegible] .157 [illegible] 6 [illegible] 5 [illegible] .(Kaiho *et al.*, 1993) Kuroki [illegible] 88 [illegible] 113 [illegible] Kato Gilliam, Karp [illegible] (Chang *et al.*, 1990)

[illegible] %77 [illegible]

[illegible] voles [illegible] (*Rattus* [illegible]) [illegible] shrew [illegible] (*Apodemes* Zoogeo- [illegible] graphic

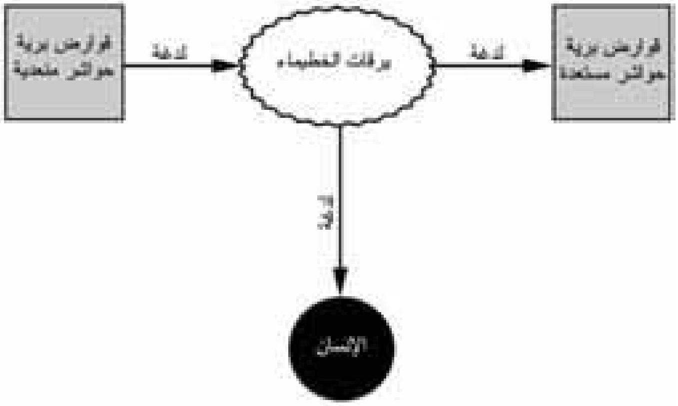
[illegible] .(Saah, 1991) [illegible] °40.5 – °40 [illegible] parameters [illegible] inoculum [illegible] (%34) 30 [illegible] psychomotor excitation [illegible] %85 [illegible] 87 [illegible] Berman and Kundin, 1973; Saah,) [illegible] .(1991

Ž ǴǼèÀèǰǡ ǴǼr̀Àţä ğÀʐǰǡ ǼDZʐǩ Ǽę ʔÀǹǰǡ ğÀǼÊǪÒÀÀöä öäşáǖ Ž Àŀõş ·ǁǴöÀʠ ǴŸǨÀę Wisseman,) %30 ƂǗ %0 ȸŋ ğɍÀΣǡ ǴǨÀŋǗ ȯǼȞŋ ǳʐşäÀǪÀ Ǽę ·ǥK8Ôöä ǴÀʐŋǼöä ǴǼ3şǰǡ ·ƙÀÊţä îÀÁïǰǡ ȸŋ Ƙǰ̌Òǡ ʔŸ3ǖ ȷʐÒÀş Ǘ(1982

ÀǮǼŸǩ ǴǼöÀ3 ǴǼəǼǡ Ǵ3ÀDZ ʔÛȞǩ ·Ƀʐŀ̇Àöä ƙŸÒǼèäÀǪǪöä ȸŋ ǴÀǼǼŸǪǪöä ǴƨÀȞţä Ȥöü̇Ǫǩ ǴǫŸǰ̌öä ӯÀÀǰǡ ȯŸǹ ǴƨÀȞţÀǡ öǼǴöä Ź ääǗ ÈÒÀöä ϙǼ3 Ǽę ·ţʐǴèǖ ȯŸǹ ǼŋʐÀ ğÀ3ÀDZ 4 ȸŋ ǥǼǼǵş Ǵ3ÀDZ öÀÛ3ǖ ȷǖ ǼDZş :(ȷäʐÀǪǡ) øşáÀÒÊǴöä øÂDZş ÀÀÂǼöÀŋ Ž · ôÀţä ȸŋ Ƃşǰǡ .(Benenson, 1990) ǁɍÀȞʐ ȷÀõ ƂäʐǪöä ʔŸ3 ӯÀÀǖ 5ş 7 ŋõ/ŋŋ 5 ƙŸǼÊǼÊõşǼöä

·ǴǼȞǼǴÛöä öÀÀʐǭǰǡ Ž ǁǼǴÊǫ ǴÀǼÀǹ şǖ ǥÀŁÀş Ƙʠ ʔşǼȞöä :ğÀǫäʐǼΣǡ Ž ôÀţä

·ȯÀÕǪǫɍǡ ǴÖŸǵ - (ǴǼïʐŋÀʠʐÊǩʐÊǪä ǴǼÊǪÒÀÀä) ƂÀõǰǡ âʐÀǼǪöä :7 ÖÒÎöä



ǴǼÊǪÒÀŸǼ ǴǼŽǖ Àǰ̌õǰǡ ǬęäʐÀöä :(7 ÖÒÎöä) ȯÀÖǪǫɍǡ äÀüş ʔşǼȞöä øǼÔŋ öÀŀǼÛʅǡ Òǹǰ̇Àǡş ǗöÀŀǼÛʅǡ ÈÀDZ ȸŋ âʐÊöä ȸŋ ǥǼÀǼ3 ţäʐǪǖ ɄŁ ǴǼïʐŋÀʠʐÊǩʐÊǪä L. ǴÛÛÁţä öÀŀǼÛʅäş ǗL. arenicola ǴŸŋäÀöä öÀŀǼÛʅäş ǗL. akamuohi ǴǼïʐŋÀõǰǡ L. pavlovsky ǴǼÒÊʐʐŸʐÀǴöä öÀŀǼÛʅäş L. pallidum ǴǵǥÀÎöä öÀŀǼÛʅäş deliense .ecosystem ǴöÀʅǡ ǥöÀǴţä ǼÊǥ ǪęÀÀöä ţʐÀöä ȤŸǪΣ .L. flatcheri ǴÀÀÎǼŸÀöä öÀŀǼÛʅäş 3ǼǡÀöä Ž öÀţÀǡ ÀŀȣǩɄøǪöä ǴęşÀǂǡ ȯʐÖΣǡ Ž ǴǼïʐŋÀõǰǡ öÀŀǼÛʅǡ ǼDZʐǩ ȯÀǰ̌ţä ÖǼǴè ʔŸȞʐ Ž ǁǴöÀʠ áʐDZʐŋ âʐÊöä ·ȯÀʠáǰǡ 3ŋ ǁÖʐäÀǩ Àǰ̌õǖ ǴÛÛÁţä öÀŀǼÛʅǡ ƙǥ Ž ÛȤǼÔöä ǴÀäǼǡş

(Saah, 1991)

(Weiss and Moulder, 1984)

%20

transporters

presumptive

*proteus* OX-K

(Yamamoto and Minamishima, 1982; Kelly *et al.*, 1988)

microplate

(Sugita *et al.*, 1993) 6

herbicides

1.125

200

(Olson *et al.*, 1980)


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Berman, S.J., W.D. Kundin. Scrub typhus in South Vietnam. A study of 87 cases. *Ann Intern Med* 79:26–30. 1973.

Brown, G.W., D.M. Robinson, D.L. Huxsoll. Serological evidence for a high incidence of transmission of *Rickettsia tsutsugamushi* in two Orang Asli settlements in Peninsular Malaysia. *Am J Trop Med Hyg* 27:121–123, 1978.

Burgdorfer, W. Scrub typhus. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Chang, W.H., J.S. Kang, W.K. Lee, M.S. Choi, J.H. Lee. Serological classification by monoclonal antibodies of *Rickettsia tsutsugamushi* isolated in Korea. *J Clin Microbiol* 28:685–688, 1990.

Kaiho, I., M. Tokieda, Y. Yoshida, *et al.* [Epidemiology of Tsutsugamushi disease and typing of isolated *Rickettsia* in Chiba Prefecture]. *Kansenshogaku Zasshi* 67:196–201, 1993.

Kelly, D.J., P.W. Wong, E. Gan, G.E. Lewis, Jr. Comparative evaluation of the indirect immunoperoxidase test for the serodiagnosis of rickettsial disease. *Am J Trop Med Hyg* 38:400–406, 1988.

Olson, J.G., A.L. Bourgeois, R.C. Fang, J.C. Coolbaugh, D.T. Dennis. Prevention of scrub typhus. Prophylactic administration of doxycycline in a randomized double blind trial. *Am J Trop Med Hyg* 29:989–997, 1980.

Saah, A.J. Rickettsia tsutsugamushi (Scrub typhus). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Shirai, A., A.L. Dohany, S. Ram, G.L. Chiang, D.L. Huxsoll. Serological classification of *Rickettsia tsutsugamushi* organisms found in chiggers (Acarina: Trombiculidae) collected in Peninsular Malaysia. *Trans R Soc Trop Med Hyg* 75:580–582, 1981.

Shirai, A., C.L. Wisseman, Jr. Serologic classification of scrub typhus isolates from Pakistan. *Am J Trop Med Hyg* 24:145–153, 1975.

Smadel, J.E., B.L. Elisberg. Scrub typhus rickettsia. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Sugita, Y., Y. Yamakawa, K. Takahashi, *et al.* A polymerase chain reaction system for rapid diagnosis of scrub typhus within six hours. *Am J Trop Med Hyg* 49:636–640, 1993.

Traub, R., C.L. Wisseman, Jr. Ecological considerations in scrub typhus. *Bull World Health Organ* 39:209–237, 1968.

Weiss, E., J.W. Moulder. Rickettsiales Gieszczkiewicz, 1939. In: Krieg, N.R., J.G. Holt, eds. Vol. 1: *Bergey's Manual of Systematic Bacteriology*. Baltimore: Williams & Wilkins; 1984.

Wisseman, Jr., C.L. Scrub typhus. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

Yamamoto, S., Y. Minamishima. Serodiagnosis of tsutsugamushi fever (scrub typhus) by the indirect immunoperoxidase technique. *J Clin Microbiol* 15:1128–1132, 1982.

Zdrodovskii, P.F., H.M. Golinevich. *The Rickettsial Diseases*. Oxford: Pergamon Press; 1960.

# ZOONOTIC CHLAMYDIOSIS ƥǬƬDžǁƐ Ǐ ǿǳƐNjǐƟǁƐ l ƐƥǨǬƗDžǁƐ ƅƐǬ

*ǉǐǝƑƺƓǁƐ l ƐƥǨǬƗDžǁƐ* njNjǬƳ **ICD-10 A70**

**ICD-10 A70 *Chlamydia psittaci* infection**

ǒȀ8ƓƓǒǟ ʔƥ Ǔ(ǧǟȘȀ8ƓƓǒǟ ǦƳƗÔƺ ȸǫ ǿƺƗÛǒǟ Ž) psittacosis ƗǝȀ8ƓƓǒǟ ǒǟÆǒǟ ˙ǧȀƺǻǟȀǪƫǟ ·(ʔȀǹǰǟ ǿƺƗÛǒǟ Ž) Ornthosis ǿƺƗÛǒǟ ǒǟǻ Ǔparrot

*ǦȀǯƩǟ ǥȀǫÆǪƫǟ* ˙ǁƗǒȀǵ ǧǟȀǫÆǪƫǟ ȄȀDZ ȸǫ ǦƗǒȀǪǒǟ ǦǪƳǯǒǟ ƫǟƺǫǰǟ ȀƗƗǬ Ź ˙ǧȀƗƓƓȆǒǟ (ǁǒǟȀè TWAR ǦȀǿǽ) *C. pneumoniae ǦȀƺǝȀǟ ǥȀǫÆǪƫǟȘ* Ǔ*Chlamydia trachomatis C. pecorum ǦȀǿƺÒƗƓǒǟ ǥȀǫÆǪƫǟ* ˙ȝǟǟǿ ƫƺǫ ǻƺDZȘ ȏ ȀǪƺǟ ÆȩȘ ·*C. psittaci ǦƗǝȀ8ƓƓǒǟ ǥȀǫÆǪƫǟȘ*

ǦƗǵ ǧȀȀǝȀȭ ǧǟȀǫÆǪƫǟ ·(Fukushi and Hirai 1992; Kuroda-Kitagawa *et al.*, 1993) ȀȶȚȀǫ ÆǵǟȘ ˉ ȸȀǿƺǜ ȯƳǹ ȸǫ ǪǬǩ ǥȀƗư ǦȀȀǫȀÒǩ ǦȭƳǵ ȀȚȘ (ǦȀƺƳǹ Ǒǹǟǻ) ǦƗǫǟƺDZ ǦȭƗȩǻ ˙ǁƳǯǫ ǦƗǝȀȀǯǪèɍǟ ǧǟȀƗȶƫǟ ȐȞǽ ȝǫ ȸÒǒ ǓƗǒȀǵ ǪƗǫǟȀDZ ȀƗǓ ʔƳȝ ȧȀȀǩɍǟ Ź ÆȩȘ ·ǙȭƺƗȞǫ ǦȭƳǵȘ ǦȀƺƗȀǽȘ ǦƗǽƳȭǪèǟ ȧȘȀƺȘ strict intracellular parasitism ȳȀǪǒǟ ƗǿǫǟƺƨǟǑȀǓǪǒǟ

· ǥȀƗȶǪǫ ǿƺǓǩ

ǧȘǾȀȘ ǥÆǨǪȆƫǟ ȀȀƳʅȀǽ ǙƓǨȀȀ ɃǾǒǟȘ elementary ƗǝǟÆǪǽɍǟ ǪȆƨǟ ƺȽ ɃÆǨƫǟ ȀÔȀǨǒǟ ǧȀȝȀè 8 – 6 ȯƳǹȘ ·ǦƗǜȀȀȶƳǒ ǦȀǻƺȶǨǒǟ ǥǿȀȚȚǒǟ internalize (ǦƗǩǟǽ ǦȀȍ ȼƗƳȝ ƗȀȒȀ) ǪȆƨǟ ǪȆǑȀȀ Ž Ǔreticulate ɃÆǨǫ ƙǫ ƗȮǦǐ ǪȆDZ ƂǓ ǧȘǾǪƫǟ ƗǝǟÆǪǽɍǟ ǪȆƨǟ ȀȀȀȶǪȀ ǪƗȚǩ ǥǟȀȝȢ ǥÆȀÆƨǟ ȳȀȆDZǰǟ ȝȒơ ʔȀǹǓ ǦȝȀè 24 – 18 ÆǨǽȘ ǓƗǝȀȀǯǒǟ ǿȀǓȊǫɍȀǽ ƗȮǦȊǒǟ ·ȷȘȀȮƗǫ 0.3 – 0.2 ȀȽȀǓȩ ǦƗǝǟÆǪǟǟ ǧȀȶƗȆDZ ƂǓ ȀȚƺƠȘ ȀȽȀȭȀǩ ƗǿǪǒǟȘ reorganization ǙȭƺǦƗǝǟÆǪɍǟ ȳȀȆDZǰǟ ʔƳȝ ǦƗǫǟƺƨǟ (ǧƳȶǪȊƫǟ) ǦƳȶǪȊƫǟ ȳȀȆDZǰǟ ɃƺǪơ ɍ ǓǬǒǾǟȘ ƙǩȀǫ ȸǫ ȀǯȭǓǟ ȜȭǓ ƗȽ ƗǿǪǒǟȘ ǓƗȒȀǓ ǦƗȮǦȊǒǟ ȳȀȆDZǰǟ ʔƳȝ Ǒǟ (ȷȘȀȮƗǫ 0.3 – 0.2) ǪȆƨǟ ·ÆȀÆDZ ȸǫ ǦƗǝǟÆǪɍǟ ȳȀȆDZǰǟ ǿȀǨƗǪǩ ǓɃƺǯǒǟ ǦƗƳǹ ʔȝǟÆǪǩ ȀǫÆȀȝ ·(ȷȘȀȮƗǫ 0.8) ǦƗƳǹ ʔƳȝ ǑȀǓǪȀ ȼȀȮǒ ǙƗȊȀƺ ƗȮǦȊǒǟ ǪȆƨǟ ȀǫǓ ǓǦƗǽƳȭǪèɍǟ ǦƗǵȀȀǒǟ ȸǫ ǑǫȀǹ ƗǝǟÆǪɍǟ ǧȀȀȆȀǒǟ ƗǪƳǯǒǟ ȸȀȁƺȀǻǰǟ Ǒǯǫ ǦȩȀǓǒǟ ǦƗǒȀȝ ǧȀǫƺȮǫ ȨƗƳơ ȝƗǓǪȆȀ ɍ ȼǫǰ Ƀƺǯǒǟ ȷǟƺƗƩǟ

·ǧȀȀȆȀǒǟ ƗǪƳǯǒǟ ȸȀȁƺǫǟƺ8ǒǟȘ

ǦŧӇǬŸţäş ǦǼφÀÕöä Ž āÅŦǬöä) (ÅŋζǹäÂǬöä) ÅǯӇÝö ɄøǤǤÊöä ŌŋÅӇöä ɄȽ *ǦÁǯΣä gÄǫÆǬţä*
Ž Ƀζǝ Àöä āÅŦǬöŧä ŌŋÅɜ ·ɃÀÎǤöä ɄŸèÅǺǬöä ŌǼǤÊöä ʔşǼɜş (Keratocongunctivitis
ÅÅζǝø ÅȑÀŋ ǦÅζǝÀöä gÂǫÆǬţä ǼǤÊǨ· ɃÀǫÆǬţä ţζÅöä äØȽ ȡŋ biotype Ƀζǝǵ ÙƳ ζȽ ȷäÀÀöä
øζǼÛöä Ž (ornithosis øζǼÛöä öäå) ɄǝÅ8ǤǤöä öäÆöä ŌŋÅɜ ɄŦζ *ǦǼǝÅ8ǤǤöä gÄǫÆǬţä* ÅŋǛ ·ÅÅÀÎǣ
ţζÅöä åÂÅǬèä ·ȷÅÊφqä ɃÆǨ ȷǛ ¯ ôøÅɜ ŌȮÎǣ ¯ ÅŦÅȮζş ·ğÅÆǺǯöä Ž gÆǺÆɜ ôäÅŋǚş
ǦǝÀöä āÅŦǬöäş ɃÀŌǤöä ȟÅŋÆöä āÅŦǬöä ğȑÅǵ ȡŋ Û*C. pecorum* *ǦÅøζȮǼǤöä gÄǫÆǬţä* ÛÆǺÆƨä
*gÄǫÆǬţä* ţäζφǚ ŌÕ ÕøÅÎǬǨ ·ɄŧÅ8öä ŌÒÅÂţä āÅŦǬöä ȡŋ ȬöǾÕş ÛøÅÕǣȷä Ž öÅӇŋȷä āÅŦǬöäş
·ȳäÅ8öä ǦǼǤŸÊöä ĻǼǫäÀƨä ǦöÅǵ Ž ɃØöÅÕ ¯ ɄŧӇì ÆÀÅȮè ÆǺÆɜ ζȽ ÕÀǬÎŋ ÆȒǬÊŋ
ğÅφäζǼΣä ȡŋ ȯÅŌǬφȑä ÅŦÅȮζ ɄøǬöä ÙŌζ *ǦǼǝÅ8ǤǤöä gÄǫÆǬţä* ɜŋ ŌÔÀöä äØȽ ŌŋÅӇǬÅ 8ζè
:ɄȽş ÛǦÅŸǬƯ ğäÂǼư ɜŋ ƙǬӇèäş ƙǬɜζŧƒ Ž ǦǼǝÅ8ǤǤöä gÂǫÆǬţä Ƀøäøǣ ɜŌǨ ·ȷÅÊφqä ɃǛ
·ɄÅÆǯöä ɄǝÅ8ǤǤöä öäÆöä Ōŋäζɜş ÛɃƘÛöä psittacosis ɄǝÅ8ǤǤöä öäÆöä Ōŋäζɜ
*ğäÄǫÆǬŧŸö* ȷǚζ endonuclease restriction ǦǼŸǹäÆöä ţÅÛǬęŧä ğäàÅǼŸõζφ ŌǼŸƠ ÆÊǵş
ʔŸɜ ǦǼŸÔŋ ȑÅyǚ ǦӇäøǚ ɃƘÛöä ɃζǼΣä ÙŧÅŸöş ÛŌęȷä ʔŸɜ ǦÅζǼǵ ȑÅyǚ ǦÊȒ *ǦǼǝÅ8ǤǤöä*
øζǼÛöä Ž ôÅţäş ʔşǼӇöä ȡɜ ȯşúÊŋ serovars ǦǼŸÔţä āşÀȒöä ǤØȽ Æǵǚş ÛŌęȷä
Ž ğÅǼìÅζ ɜŋ ƘǹȷäĘζäÀǨ Æęş ·ɄŋşÀöä ȬÅÆöä Ž ɄǝÅ8ǤǤöä öäÆöä ǼǤÊÅ Àǹǿäş ÛǦǼǝÅ8ǤǤöä
ȡŋ ǦÅƘÛöä Ƀøäøøöä ·(Andersen and Tappe, 1989) ȷÅÊφqäş ǦǼŋşÀöä õζÅÆöä ȡŋ ŌÕ
Ʉø Ǭöäş ¯ Ǧɜζζ ÀǯõȷäÃ ɃøäøØöä ǼǤÊǨ Æę ·ǦɜζÀöä ȡŋ ǦÀŸǬƯ ğÅǱøå ÅŦ *ǦǼǝÅ8ǤǤöä gÄǫÆǬţä*
ȬÅÆöä Ž ğÅǼìÅζ ¯ (ɄŋşÀöä ȬÅÆöä ¯ ɄŸÔţä āÀȒöä) ǦǼŋşÀöä õζÅÆöä ȡŋ ğåÀǬèä
ǦÅÀǣ øζǼù ȡŋ Ƀøäøøöä ǤØȽ ğåÀǬèä ·%30 ɃǛ %5 ȡŋ ǳζşÀǬǨ ğÅǼζş ȯÆӇŋ ɜŋ ÛɄŋşÀöä
ÛøζǼÛöä ǤØȽ ɜŋ ŌŧӇÅ ȷÅõ äæǛ ǦȯÅǹş Û ôÀŧŸö ǦǼӇȑ ǴǤÔÅ ȷǛ ȷÅÊφRö ȡȮζ ·ǦǼȑäÀɜǛ ȑ
ÙǤöäş ÿÅŧΣä ȡŋ ÛɄÊǼǝø ŌȮÎǣş ÛǦɜζζ Ōęȷä ɃøäøØöä ğåÀǬèä ·Åŋ ǼǤÊö ÅŦ ôÀÅǨ şǛ
·(Grimes and Wyrick, 1991) ǦÎǼӇţä gÀΣä øζǼÛöäş ɄŋşÀöä ȬÅÆöä ȡŋ ÅφÅǼǵǚş Duck
·ÆӇǣ ǦɜζÀöä Ōŋäζɜ åÆƠ Ɓ
ğÅèäøÆöä ʔÆǵǛ ĻÊŌǨ ·ğÅÆǺǯöä Ž *ǦǼǝÅ8ǤǤöä gÄǫÆǬţä* Ƀøäøǣ Ƙǣ ƎõǛ ţζÅǨ õÅȽ ȷǛ
:(ôÀǬÅţä) ǳÀǬǬţä ţζÅöä ·ğÅɜζŧƒ 8 ɃǛ ǦǼÆǯöä Ƀøäøøöä (Spears and Storz, 1979)

%15 ... *C. pecorum* ...
... homology ...
... %88 ...
.(Fukushi and Hirai, 1992) ...

...

... 1939 ... 1929 ...
... 12 ...
... 300 – 200 ... 1.000
... .(Schachter, 1975) ...
...
... 4 ...
... 98 ... 28 ... 1976 ... .1974
- 1978 ... .(CDC, 1982) ... 80 ... 27 ... 1981 ...
... 21 ...
... .(Filstein *et al.*, 1981) ...
... 2 ...
... (%66) 122 ... 186 ... 1986
... .(Hedberg *et al.*, 1989)
... 1.072 ... 1963 ... 1949 ...
... (%16) 80 ... 13 ... 1985 ... .(Caffarena *et al.*, 1993)
... .(Newman *et al.*, 1992) ...
...
...

[illegible] 150 [illegible]
[illegible] .(Nagington, 1984) 1983 [illegible] 1975 [illegible] 300.000 [illegible]
[illegible] .(Williams, 1989) 1984 [illegible] 1975 [illegible] 8 [illegible] 1.136 [illegible]
[illegible]
[illegible] 180 [illegible] 1977 [illegible] 1976 [illegible] 26 [illegible]
[illegible] 949 [illegible] 1981 [illegible] 1977 [illegible] 3 [illegible] 71 [illegible]
[illegible] (%41) 387 [illegible]
[illegible] %25 [illegible]
[illegible] .(Planes *et al.*, 1986) [illegible]
.(Caffarena *et al.*, 1993) [illegible] 12 [illegible] 1989
[illegible] 1994 [illegible] 1993 – 1992 [illegible]
[illegible] 55 [illegible]
[illegible] 22 [illegible]
.(Caffarena *et al.*, 1993) 1988 – 1987 [illegible] 6 [illegible] 1970 – 1962

[illegible] 1969 [illegible]
[illegible]
[illegible] .(Schachter *et al.*, 1969)
[illegible] .(Regan *et al.*, 1979) [illegible]
[illegible] 10
[illegible] .(Hadley *et al.*, 1992) [illegible]
.(Villemonteix *et al.*, 1990) [illegible]

[illegible] 130 [illegible]
[illegible]
[illegible]

[illegible] fringillids [illegible] 1987 [illegible] 1960 [illegible] 20 [illegible] (Grimes *et al.*, 1991) [illegible] 250) pet [illegible] 287 [illegible] %20 [illegible] (Schwartz *et al.*, 1982) [illegible] 77 [illegible] (%24.7) 19 [illegible] (Hirai *et al.*, 1983) passerines [illegible] (%26.1) 12 [illegible] 716 [illegible] (%0.8) 6 [illegible] Fukushi *et*) [illegible] 658 [illegible] %37 [illegible] (*al.*, 1983 [illegible] *C. pecorum* [illegible] placentopathy [illegible] encephalomyelitis [illegible] (Timoney *et al.*, 1988) [illegible] zoontic [illegible] 1991 – 1987 [illegible] %28 [illegible] %30.7 [illegible] (Leonard *et al.*, 1993) %8.6 [illegible] feral [illegible] 753 [illegible] %30 [illegible] 3 [illegible] 2 [illegible] 22 [illegible] 10 [illegible] .(Wills *et al.*, 1988)

[illegible] 2 – 1 [illegible] 1986 [illegible] %69 [illegible] %83 [illegible] %88 [illegible] %80 [illegible] %91 [illegible] .(Hedberg *et al.*, 1989) [illegible] %58 [illegible] 10 – 7 [illegible] patches [illegible] 50 [illegible] delirium [illegible] .(Hadley *et al.*, 1992)

[illegible] 14 – 10 [illegible] 8 [illegible]

[illegible] %1 [illegible] .(Benenson, 1990) [illegible]

[illegible] parakeets [illegible] hyperemic [illegible] epicarditis [illegible]

[illegible] C. pecorum [illegible] parenteral [illegible] .(Johnson and Grimes, 1983) [illegible] macaw [illegible]

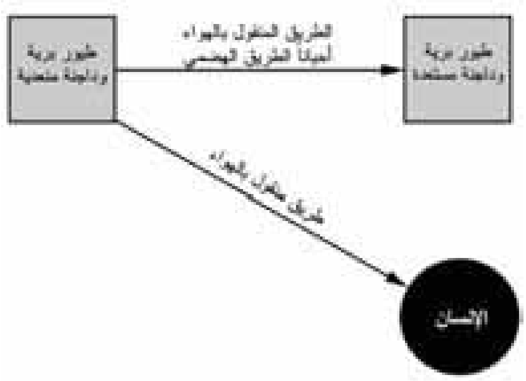
[illegible] (*Ara araraeina*)
.(Lipman *et al.*, 1994) cloaca [illegible]
[illegible]

[illegible] :(8 [illegible])
[illegible]
[illegible] *C. pecorum* [illegible]
[illegible]

[illegible]
[illegible] .(Schachter, 1989) [illegible]
.(Schachter and Dawson, 1979) [illegible]

[illegible] 1.000 [illegible]

(coprophagy




(Grimes, 1978)

microprocedure

G M

(V/V) %5

(Grimes and Wyrick, 1991)

M

(Grimes, 1989)

10

(Anderson, 1991a)

[illegible]

[illegible]

[illegible]


Andersen, A.A. Serotyping of *Chlamydia psittaci* isolates using serovar-specific monoclonal antibodies with the microimmunofluorescence test. *J Clin Microbiol* 29:707–711, 1991a.

Andersen, A.A. Comparison of avian *Chlamydia psittaci* isolates by restriction endonuclease analysis and serovar-specific monoclonal antibodies. *J Clin Microbiol* 29:244–249, 1991b.

Andersen, A.A., J.P. Tappe. Genetic, immunologic, and pathologic characterization of avian chlamydial strains. *J Am Vet Med Assoc* 195:1512–1516, 1989.

Arnstein, P., B. Eddie, K.F. Meyer. Control of psittacosis by group chemotherapy of infected parrots. *Am J Vet Res* 29:2213–2227, 1968.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Caffarena, R.M., H. Trenchi, M.A. Salvo, *et al. Chlamydia psittaci* en medicina veterinaria y su importancia en salud pública—parte 1 & parte 2. *Therios* 22:230–243, 306–320, 1993.

Filstein, M.R., A.B. Ley, M.S. Vernon, K.A. Gaffney, L.T. Glickman. Epidemic of psittacosis in College of Veterinary Medicine. *J Am Vet Med Assoc* 179:569–572, 1981.

Fukushi, H., K. Hirai. Proposal of *Chlamydia pecorum* sp. nov. for *Chlamydia* strains derived from ruminants. *Int J Syst Bacteriol* 42:306–308, 1992.

Fukushi, H., K. Itoh, Y. Ogawa, Y. Hayashi, M. Kuzuya, K. Hirai, *et al.* Isolation and serological survey of *Chlamydia psittaci* in feral pigeons from Japan. *Jpn J Vet Sci* 45:847–848, 1983.

Grimes, J.E. Transmission of chlamydiae from grackles to turkeys. *Avian Dis* 22:308–312, 1978.

Grimes, J.E. Serodiagnosis of avian *Chlamydia* infections. *J Am Vet Med Assoc* 195:1561–1564, 1989.

Grimes, J.E., P.B. Wyrick. Chlamydiosis (Ornithosis). *In*: Calnek, B.W., ed. *Diseases of Poultry*, 9th ed. Ames: Iowa State University; 1991.

Hadley, K.M., D. Carrington, C.E. Frew, *et al.* Ovine chlamydiosis in an abattoir worker. *J Infect* 25(suppl 1):105–109, 1992.

Hedberg, K., K.E. White, J.C. Forfang, *et al.* An outbreak of psittacosis in Minnesota turkey industry workers: Implications for modes of transmission and control. *Am J Epidemiol* 130:569–577, 1989.

Hirai, K., K. Itoh, T. Yamashita, H. Fukushi, Y. Hayashi, M. Kuzuya, *et al.* Prevalence of *Chlamydia psittaci* in pet birds maintained in public places or in close human contact. *Jpn J Vet Sci* 45:843–845, 1983.

Johnson, M.C., J.E. Grimes. Resistance of wild birds to infection by *Chlamydia psittaci* of mammalian origin. *J Infect Dis* 147:162, 1983.

Johnson, F.W., B.A. Matheson, H. Williams, A.G. Laing, V. Jandial, R. Davidson-Lamb, *et al.* Abortion due to infection with *Chlamydia psittaci* in a sheep farmer's wife. *Br Med J* 290:592–594, 1985.

Kuroda-Kitagawa, Y., C. Suzuki-Muramatsu, T. Yamaguchi, *et al.* Antigenic analysis of *Chlamydia pecorum* and mammalian *Chlamydia psittaci* by use of monoclonal antibodies to the major outer membrane protein and a 56- to 64-kd protein. *Am J Vet Res* 54:709–712, 1993.

Leonard, C., G.L. Caldow, G.J. Gunn. An estimate of the prevalence of enzootic abortion of ewes in Scotland. *Vet Rec* 133:180–183, 1993.

Lipman, N.S., L.L. Yan, J.C. Murphy. Probable transmission of *Chlamydia psittaci* from a macaw to a cat. *J Am Vet Med Assoc* 204:1479–1480, 1994.

Meyer, K.F. Ornithosis. *In*: Biester, H.E., L.H. Schwarte, eds. *Diseases of Poultry*, 5th ed. Ames: Iowa State University Press; 1965.

Meyer, K.F. Psittacosis-Lymphogranuloma venereum agents. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Nagington, J. Psittacosis/ornithosis in Cambridgeshire 1975–1983. *J Hyg* 92:9–19, 1984.

Newman, C.P., S.R. Palmer, F.D. Kirby, E.O. Caul. A prolonged outbreak of ornithosis in duck processors. *Epidemiol Infect* 108:203–210, 1992.

Page, L.A., W.T. Derieux, R.C. Cutlip. An epornitic of fatal chlamydiosis (ornithosis) in South Carolina turkeys. *J Am Vet Med Assoc* 166:175–178, 1975.

Planes, N., M.E. Grela, G. Carballal, *et al.* Psittacosis in humans in Argentina (1977–1981). *Medicina* 46:287–290, 1986.

Regan, R.J., J.R. Dathan, J.D. Treharne. Infective endocarditis with glomerulonephritis associated with cat chlamydia *(C. psittaci)* infection. *Br Heart J* 42:349–352, 1979.

Schachter, J. Psittacosis (Ornithosis, feline pneumonitis and other infections with *Chlamydia psittaci*). *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield, Illinois: Thomas; 1975.

Schachter, J. Chlamydial infections: Past, present, future. *J Am Vet Med Assoc* 195:1501–1506, 1989.

Schachter, J., C.R. Dawson. Psittacosis-Lymphogranuloma venereum agents/TRIC agents. *In*: Lennette, E.H., N.J. Schmidt, eds. *Diagnostic Procedures for Viral, Rickettsial and Chlamydial Infections*, 5th ed. Washington, D.C.: American Public Health Association; 1979.

Schachter, J., H.B. Ostler, K.F. Meyer. Human infection with the agent of feline pneumonitis. *Lancet* 1:1063–1065, 1969.

Schmeer, N. Enzymimmuntest zum Nachweis von IgG-und IgM-Antikorpern gegen *Chlamydia psittaci* bei der Taube. *Zbl Vet Med B* 30:356–370, 1983.

Schwartz, J.C., W. Fraser. *Chlamydia psittaci* infection in companion birds examined in Florida. *Avian Dis* 26:211–213, 1982.

Spalatin, J., J.O. Iversen. Epizootic chlamydiosis of muskrats and snowshoe hares. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Spears, P., J. Storz. Biotyping of *Chlamydia psittaci* based on inclusion morphology and response to diethylaminoethyl-dextran and cycloheximide. *Infect Immun* 24:224–232, 1979.

Storz, J. Comparative studies on EBA and EAE, abortion diseases of cattle and sheep resulting from infection with psittacosis agents. *In*: Faulkner, L.C., ed. *Abortion Diseases of Livestock*. Springfield: Thomas; 1968.

Storz, J. Chlamydia *and* Chlamydia-*Induced Diseases*. Springfield: Thomas; 1971.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*, 8th ed. Ithaca: Comstock; 1988.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Follow-up on turkey-associated psittacosis. *MMWR Morb Mortal Wkly Rep* 23:309–310, 1974.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Psittacosis associated with turkey processing—Ohio. *MMWR Morb Mortal Wkly Rep* 30:638–640, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Centers for Disease Control psittacosis surveillance, 1975–1984*.

Villemonteix, P., G. Agius, B. Ducroz, *et al.* Pregnancy complicated by severe *Chlamydia psittaci* infection acquired from a goat flock: A case report. *Eur J Obstet Gynecol Reprod Biol* 37:91–94, 1990.

Williams, L.P., Jr. Review of the epidemiology of chlamydiosis in the United States. *J Am Vet Med Assoc* 195:1518–1521, 1989.

Wills, J.M., P.E. Howard, T.J. Gruffyd-Jones, *et al.* Prevalence of *Chlamydia psittaci* in cats in Britain. *J Small Animal Pract* 29:327, 1988.

[illegible]

# ZOONOTIC TYPHUS CAUSED BY *RICKETTSIA PROWAZEKII*

[illegible] **ICD-10 A75.0**

[illegible]

**ICD-10 A75.0 Epidemic louse-borne typhus fever due to *Rickettsia Prowazekii***

[illegible] .T. exanthematicus [illegible]

[illegible] .*R. prowazekii* [illegible] .*Glawcomys volans volans* [illegible] .(Bozeman *et al.*, 1975) [illegible]

[illegible] McDade *et*) [illegible] .(*al.*, 1980

[illegible] 1979 [illegible] 1976 [illegible] (%85.7) 1.349 [illegible] 1.575 [illegible] (%14 [illegible]) 226 [illegible] 5 [illegible] (%3.5) 8 [illegible]

[illegible] (McDade *et al.*, 1986) [illegible] 7 [illegible] 1980/1 [illegible] 1977/6 [illegible] Duma *et al.*,) [illegible] .(1981

1972 [illegible] 557 [illegible] %54.2 [illegible] 1977 [illegible] .(Sonenshine *et al.*, 1978) [illegible]

[illegible] .(Duma *et al.*, 1981) [illegible] 3 – 2 [illegible] 4 McDade *et*) [illegible] .(*al.*, 1980

[illegible] Bozeman *et al.*,) [illegible] 3 – 2 [illegible] .(1981

[illegible] 1950 [illegible] .1922 [illegible] Rescrudescent [illegible]

[illegible] (McDade *et al.,* 1980) [illegible]

*Gloucomys volans volans* [illegible] cohahitation [illegible] *Neohaematopinus sciuropteri* *Neohaematopinus sciuropteri* [illegible] *Orchopeas howardii* [illegible] (Bozeman *et al.,* 1981) [illegible]

[illegible]

[illegible]

[illegible]

Bozeman, F.M., S.A. Masiello, M.S. Williams, B.L. Elisberg. Epidemic typhus rickettsiae isolated from flying squirrels. *Nature* 255:545–547, 1975.

Bozeman, F.M., D.E. Sonenshine, M.S. Williams, D.P. Chadwick, D.M. Lauer, B.L. Elisberg. Experimental infection of ectoparasitic arthropods with *Rickettsia prowazekii* (GvF-16 strain) and transmission to flying squirrels. *Am J Trop Med Hyg* 30:253–263, 1981.

Duma, R.J., D.E. Sonenshine, F.M. Bozeman, J.M. Veazey, Jr., B.L. Elisberg, D.P. Chadwick, *et al.* Epidemic typhus in the United States associated with flying squirrels. *JAMA* 245:2318–2323, 1981.

McDade, J.E., C.C. Shepard, M.A. Redus, V.F. Newhouse, J.D. Smith. Evidence of *Rickettsia prowazekii* infections in the United States. *Am J Trop Med Hyg* 29:277–284, 1980.

Sonenshine, D.E., F.M. Bozeman, M.S. Williams, S.A. Masiello, D.P. Chadwick, N.I. Stocks, *et al.* Epizootiology of epidemic typhus (*Rickettsia prowazekii*) in flying squirrels. *Am J Trop Med Hyg* 27:339–349, 1978.

# الجزء الثانــي

# الأمـراض الفيـروسيـة

[illegible]
# ARGENTINE HEMORRHAGIC FEVER

[illegible] ICD-10 A96.0
## ICD-10 A96.0 Junín hemorrhagic fever

[illegible] Stubble [illegible] O'Higgins [illegible]

[illegible] genome [illegible] Junín [illegible] *Arenavirus* [illegible] segmented [illegible] virions [illegible] Arenaviridae 110 – 130 [illegible] choriomeningitis [illegible] 300 [illegible] ribosomes [illegible]

[illegible] Bear [illegible] Amapari [illegible] Allpahuayo [illegible] Junín [illegible] Guanarito [illegible] Flexal [illegible] Cupixi [illegible] Canyon [illegible] Paraná [illegible] Oliveros [illegible] Machupo [illegible] Latino [illegible] Tamiami [illegible] Tacaribe [illegible] Sabiá [illegible] Pirital [illegible] Pichindé [illegible] (Charrel *et al.*, 2002) Whitewater Arroyo [illegible] (Weissenbacher and Damonte, 1983) [illegible]

[illegible] (Johnson, 1981) [illegible]

[illegible]

[illegible] pampa) [illegible] 120.000 [illegible] *Akodon azarae* [illegible] 449 [illegible] 2 [illegible] 1953 [illegible] (Weissenbacher *et al*., 1983a) [illegible] 1958 [illegible] 1954 [illegible] 18.000 [illegible] (1980 – 1958) [illegible] 23 [illegible] %15 [illegible] %10 [illegible] 1964 [illegible] (1980 [illegible]) 1980 [illegible] 161 [illegible] 1977 [illegible] 989 [illegible] 302 [illegible] 1983 – 1981 [illegible] 1991 [illegible] 727 [illegible] 1990 [illegible] (1983 – 1981 [illegible] 1992 [illegible] 154

[illegible] (1992 [illegible]) [illegible] 14 [illegible] %12 [illegible] neutralizing [illegible] %11.6 [illegible] %4.4 [illegible] %7.6) [illegible] %1.9 [illegible] %7.9) [illegible] .(Weissenbacher *et al*., 1983b)

[illegible]

[illegible] 16 – 10 [illegible] (vascularization [illegible]) [illegible] .cylindruria [illegible] 8 – 5 [illegible] unsteady [illegible] hypotonia [illegible] %75) [illegible] .osteotendinous hyporeflexia [illegible]

[illegible] 6 [illegible]

[illegible] melena [illegible] tonic-clonic [illegible] %60 [illegible]

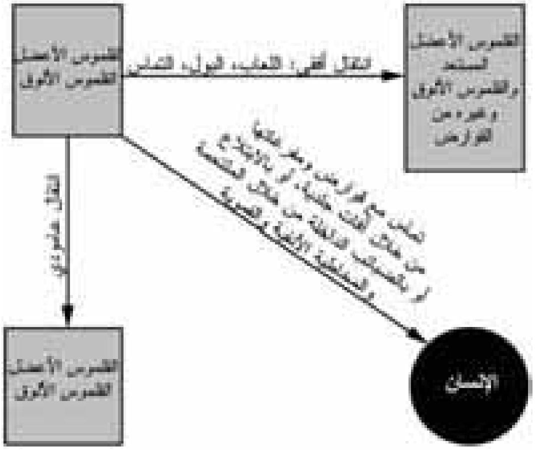
[illegible] 130 [illegible] (%9) 12 [illegible] (1974 – 1971 [illegible] .(Carballal *et al.*, 1991) %3 [illegible] %20 – %15 [illegible]

[illegible] :cricetid [illegible] *Akodon* [illegible] *C. laucha* [illegible] *Calomys musculinus* [illegible] .*azarae* [illegible] .(Sabattini *et al.*, 1977) [illegible] *Akodon* [illegible] .(Weissenbacher *et al.*, 1983) [illegible]

[illegible] :(9 [illegible] (%35) [illegible] 3075 [illegible] 1974 [illegible] 1965 [illegible] 8.728 [illegible] 3.075 [illegible] (1 :4) [illegible]

ȸʒ ȠĔŸǤǪöä Ź Æęş ÛȷäÀÂÂǵ/ʐĔʠʐÂ Б̌ ȷÂÊĔǫ/ÔÂÀæ̌ ȸȠ̧ Û1977 ȳÂʒ ǦÕÛÂţä ȻØŁ ÈÂǫ Ž ǥĸǤõ .(Bond, 1977) ǦöÂǵ 300 ȸȠ̧ ÄǯõÜ

.Junín ƙǫʐDZ âşƘÂö ǦŸȶǪǂä ȯÂÕǪɍä ǦÕŸǵÛǦĔʐÂøÂöä ǦĔÆÇÂDZøǰä ʔȶΣä :9 ÔÒÎöä




Ǭĭǵ : ô øäʐÕöä ǥÀƬƤ ʒȶθ ǦʐÂǯõ Ž Ƙ8Ǫöä ¯ ÅÕæÂè Àõæ Âȶõ ¯ ǒÂæʐöä ʔøÂĦÚÂȠ̧ ʒǤǪÂ ʔÔęǰä åÆĦöä ʒȠ̧ ȸȠ̧ÂǪÂ ɃØöäş (7 – 4 ÀƬÎöä ȸȠ̧) ʐÂÀʅä Ž ʔŸʒǰä ţʐęʐöä ǫÆʒ ʒȶθ Ž åÂΣä øäÆÜɍä ʒȠ̧ ǒÂǪÎöä ȯŸǹ ǦÂÀÎǤöä ǧɍÂΣä Ž ôÂÀŸɍä ȸȠ̧ÂǪÂş Ûô øäʐÕŸö · ô øäʐÕöä

ȷşÆÕöä :ÀƬĔʐ Âȡ cricetids ǧÂÂåäÆÕöä ȸȠ̧ ǥÆÂÆʒ ţäʐǫÜ ȸȠ̧ ƙǫʐDZ âşƘʐ åÀÂǪèä
Û*C. musculinus* ÕȒʒȷä âʐȶŸÕöä Û*A. obscurus* ŹÂÕöä ȷşÆÕöä Û*A. azarae* ɃØöäȷä
ȯÂȡåǰä Ž Ì ĔĦŸö ô øäʐÕöä ȻØŁ ÕĔǫ .*Oryzomys nigripes*ş *C. laucla,* äʐöȷä âʐȶŸÕöä
ǧÂĦȶθş ÛĘÂÀÛöä ɄøǤÂDZ ʔŸʒş ÛǦʒşøÂţä ȯʐÕΣÂæ ǦÛĔǂä ǧÂDZÂĔÊöä ȯʐù ʔŸʒ ǦÕŁÂÎöä
âşƘÂö ÛʐŸǪƯ ÔÒÎæ ÛǦÂŸǪÂţä ô øäʐÕöä ţäʐǫÜ ÆĔDZʐÊǩ ·ǦÂÆÂÆΣä ǦÔÊöäş Ûȯşä Æɀä
âƘÂǩ ÆŁʐì ·ǦĦĔǤÛöä Ž ÕȠÂĦöä ʔŸʒ ǦȚʐÂǂä Ž ǦĔǤÊÂöä ÂƬǪĔƵöæ ɄǵʐÂ Æę äÕŁş ÛƙǫʐDZ
ǧÀèÜ Ż ÀƬǵäÀè ĘŸùÜ Ż ǧÀèÜ Æę ǨǫÂõ ÕȒʒȷä âʐȶŸÕöä ȸȠ̧ ǯæÂʃ Ž ȻÆǪÊţä ȳÆöä
8şÀş Ž ¯ dzÀÛǩ ÂŒÜ ÆõöǨ ÆÕö ·ÅȠʐÂ 55 Б̌ ÔÒǩ ÔòäʐÂæş ǧäÀȠ̧ ǫŸǫ ş̌ ƙǨÀȠ̧ ǦĔǫÂǫ

[illegible] C. callosis [illegible] (Sabattini et al., 1977) [illegible] cricetid [illegible] (%76) [illegible] (Mills et al., 1992) [illegible] 4 [illegible] Akodon [illegible] 40 (Sabattini et al., 1977) [illegible] Villefañe et al.,) Calomys [illegible] (1977.

[illegible]

.(Weiassenbacher *et al.*, 1983 Kravetz *et al.*, 1981)

*Calomys*

litter

%60

Presumptive

leukoplaquetopenia

.(Carballal *et al.*, 1991) CD8+ CD4+

(virologic 1965

[illegible] 1974 – 1965 [illegible] %64 [illegible] Vero [illegible] cytopathogenic [illegible] (Lascano *et al.*, 1981) [illegible] 8 – 2 [illegible] 4 – 3 [illegible] (Samailovich *et al.*, 1983) [illegible] 14 – 1 [illegible] 50 [illegible] %96 [illegible] %88 [illegible] (Damilano *et al.*, 1983) [illegible] %30 [illegible] G [illegible] M [illegible] (Carballal *et al.*, 1991) Lozano *et al.*, 1993;) [illegible] Reverse- transciption .(Lozano *et al.*, 1995

[illegible]

inactivate Candid #1 XJO XJC13 636 XJC13 9 – 7 *Cebus* %90 (marmoset) neurovirulence – *Callithrix jacchus* (Weissembacher and Damonte, 1983) Candid #1 Berrera Oro, J., 1993; March 1986; Barrera Oro and McKee, 1991; McKee *et al.*, 1993 preclinical 300 immunogenicity 1990 – 1988 41 6.500 100.488 (W.H.O, 1993)


Argentina. Ministry of Social Welfare, Bureau of Public Health. *Bol Epidemiol Nac* 1971–1974.

Argentina. Ministry of Social Welfare, Bureau of Public Health. *Bol Epidemiol Nac* 12–14, 1981–1983.

Argentina. Ministry of Public Health and Social Action. *Boletin anual 1992*. Buenos Aires: Ministry of Public Health and Social Action; 1992.

Barrera Oro, J.G., K.T. McKee, Jr. Toward a vaccine against Argentine hemorrhagic fever. *Bull Pan Am Health Organ* 25(2):118–126, 1991.

Bond, J.O. *Hemorrhagic Fevers in Latin America*. Paper presented at the Sixteenth Meeting of the PAHO Advisory Committee on Medical Research. Washington, D.C.: Pan American Health Organization; 1977. (PAHO/ACNR 16.3).

Carballal, G., J.R. Oubiña, C.M. Videla. Familia Arenaviridae y otras productoras de fiebres hemorrágicas. *In:* G. Carballal, J.R. Oubiña, eds. *Virología médica*. Buenos Aires: El Ateneo; 1991.

Casals, J. Arenaviruses. *In:* Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Charrel, R.N., H. Feldmann, C.F. Fulhorst, R. Khelifa, R. de Chesse, X. de Lamballerie. Phylogeny of New World arenaviruses based on the complete coding sequences of the small genomic segment identified an evolutionary lineage produced by intrasegmental recombination. *Biochem and Biophys Res Comm* 296:1118–1124, 2002.

Coto, C.E. Junin virus. *Progr Med Virol* 18:127–142, 1974.

Damilano de, A.J., S.C. Levis, A.M. Ambrosio, D.A. Enria, J.I. Maiztegui. Diagnóstico serológico de infección por virus Junin por fijación del complemento, inmunofluorescencia y neutralización. *In: Primer Congreso Argentino de Virología*. Buenos Aires, 1–5 August 1983.

Guerrero, L.B. de. Ensayo de vacunación. Mesa redonda. Fiebre hemorrágica argentina: aspectos inmunológicos. *Rev Asoc Argent Microbiol* 5:163–164, 1973.

Ivanov, A.P., V.N. Bashkirtsev, E.A. Tkachenko. Enzyme-linked immunosorbent assay for detection of arenaviruses. *Arch Virol* 67:71–74, 1981.

Johnson, K.M. Arenaviruses: Diagnosis of infection in wild rodents. *In:* Kurstak, E. and C. Kurstak, eds. Vol. 4: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Johnson, K.M., S.B. Halstead, S.N. Cohen. Hemorrhagic fevers of Southeast Asia and South America. *Progr Med Virol* 9:105–158, 1967.

Johnson, K.M., P.A. Webb, G. Justines. Biology of Tacaribe-complex viruses. *In:* Lehman-Grube, F., ed. *Lymphocytic Choriomeningitis Virus and Other Arenaviruses; Symposium Held at the Heinrich-Pette-Institut für experimentelle Virologie und Immunologie, Universität Hamburg, October 16–18, 1972*. Berlin and New York: Springer-Verlag; 1973.

Lascano, E.F., M.I. Berria, N.A. Candurra. Diagnosis of Junin virus in cell culture by immunoperoxidase staining. *Arch Virol* 70:79–82, 1981.

Lord, R.D., A.M. Vilches, J.I. Maiztegui, E.C. Hall, C.A. Soldini. Frequency of rodents in habitats near Pergamino, Argentina, as related to Junin virus. *Am J Trop Med Hyg* 20:338–342, 1971.

Lozano, M.E., P.D. Ghiringhelli, V. Romanowski, O. Grau. A simple nucleic acid amplification assay for the rapid detection of Junin virus in whole blood samples. *Virus Res* 27(1):37–53, 1993.

Lozano, M.E., D. Enria, J.I. Maiztegui, O. Grau, V. Romanowski. Rapid diagnosis of Argentine hemorrhagic fever by reverse transcriptase PCR-based assay. *J Clin Microbiol* 33(5):1327–1332, 1995.

Maiztegui, J.I. Epidemiología de la fiebre hemorrágica argentina. *In:* Bacigalupo, J.C., E.R. Castro, eds. *Conferencias, simposios y plenario. V Congreso Latinoamericano de Microbiología*. Montevideo: Uruguayan Microbiology Society; 1971.

McKee, K.T., Jr., J.G. Oro, A.I. Kuehne, J.A. Spisso, B.G. Mahlandt. Safety and immunogenicity of a live-attenuated Junin (Argentine hemorrhagic fever) vaccine in rhesus macaques. *Am J Trop Med Hyg* 48:403–411, 1993.

Mettler, N.E. *Argentine Hemorrhagic Fever: Current Knowledge*. Washington, D.C.: Pan American Health Organization; 1970. (Scientific Publication 183).

Mills, J.N., B.A. Ellis, K.T. McKee, *et al.* A longitudinal study of Junin virus activity in the rodent reservoir of Argentine hemorrhagic fever. *Am J Trop Med Hyg* 47:749–763, 1992.

Pan American Sanitary Bureau. Argentine hemorrhagic fever. *Epidemiol Bull* 3(2):1–3, 1982.

Ruggiero, H.R., A.S. Parodi, H.A. Ruggiero, F.A. Cintora, C. Magnoni, H. Milani. *Síntesis médica sobre la fiebre hemorrágica argentina*. 2nd ed. Buenos Aires: Ministry of Social Welfare; 1969.

Sabattini, M.S. *In*: Bacigalupo, J.C., E.R. Castro, eds. *Conferencias, simposios y plenario. V Congreso Latinoamericano de Microbiología*. Montevideo: Uruguayan Microbiology Society; 1971.

Sabattini, M.S., J.I. Maiztegui. Fiebre hemorrágica argentina. *Medicina (Buenos Aires)* 30 (Supl 1):111–128, 1970.

Sabattini, M.S., L.E. González de Ríos, G. Díaz, V.R. Vega. Infección natural y experimental de roedores con virus Junín. *Medicina (Buenos Aires)* 37(Supl 3):149–161, 1977.

Samoilovich, S.R., G. Carballal, M.J. Frigerio, M.C. Weissenbacher. Detección de infecciones de laboratorio por virus Junín utilizando comparativamente las técnicas de neutralización e inmunofluorescencia. *Rev Argent Microbiol* 15:113–118, 1983.

Schwartz, E.R., O.G. Mando, J.I. Maiztegui, A.M. Vilches. Síntomas y signos iniciales de mayor valor diagnóstico en la fiebre hemorrágica argentina. *Medicina (Buenos Aires)* 30(Supl 1):8–14, 1970.

Vilches, A.M. Ecología y control de la fiebre hemorrágica argentina. *In*: Bacigalupo, J.C., E.R. Castro, eds. *Conferencias, simposios y plenario. V Congreso Latinoamericano de Microbiología*. Montevideo: Uruguayan Microbiology Society; 1971.

Villafañe, G. de, F.O. Kravetz, O. Donado *et al.* Dinámica de las comunidades de roedores en agro-ecosistemas pampásicos. *Medicina (Buenos Aires)* 37(Supl 3):128–140, 1977.

Weissenbacher, M.C., E.B. Damonte. Fiebre hemorrágica argentina. *Adel Microbiol Enf Infec (Buenos Aires)* 2:119–171, 1983.

Weissenbacher, M.C., M. Calello, G. Carballal, N. Planes, F. Kravetz. Actividad del virus Junín en áreas no endémicas: su aislamiento en roedores y detección de anticuerpos en humanos. *In*: *Primer Congreso Argentino de Virología, Buenos Aires, 1–5 agosto 1983*, 1983a.

Weissenbacher, M.C., M.S. Sabattini, M.M. Avila *et al.* Junin virus activity in two rural populations of the Argentine hemorrhagic fever (AHF) endemic area. *J Med Virol* 12:273–280, 1983b.

World Health Organization. Vaccination against Argentine haemorrhagic fever. *Wkly Epidemiol Rec* 68:233–234, 1993.

## BOVINE PAPULAR STOMATITIS [illegible]

[illegible] **ICD-10 B08.8** [illegible]

**ICD-10 B08.8 Other specified viral infections characterized by skin and mucous membrane lesions**

[illegible] .proliferating [illegible] granular [illegible]

[illegible] Poxviridae [illegible] *Parapoxvirus* [illegible] virion [illegible] (pseudocowpox [illegible] 215 – 207 x [illegible] 150 – 125 [illegible] .(Timoney *et al.*, 1988) [illegible]

[illegible]

[illegible] 19 [illegible] 1972 [illegible] 1953 [illegible] .(Schnurrenberger *et al.*, 1980) [illegible] .(Bowman *et al.*, 1981) [illegible] (Aguilar-Setien *et al.*, 1980) [illegible]

[illegible]

[illegible] .erosive [illegible] %5 [illegible] 120 [illegible] 31 [illegible] .(Aguilar-Setien *et al.*, 1980) [illegible] .(Bowman *et al.*, 1981) [illegible] .vesicular [illegible]

[illegible] 8 – 3 [illegible] 8 – 3 [illegible] verrucous [illegible] 3 [illegible]

[illegible] 1960 [illegible]

[illegible] $4-2$ [illegible]

[illegible]

[illegible] cytopathic [illegible]

[illegible] (Tripathy *et al.*, 1981) [illegible]

[illegible]

## ŬøШƐƥøDžǁƐ

Aguilar-Setien, A., P. Correa-Giron, E. Hernandez-Baumgarten, A. Cruz-Gomez, P. Hernandez-Jauregui. Bovine papular stomatitis, first report of the disease in Mexico. *Cornell Vet* 70:10–18, 1980.

Bowman, K.F., R.T. Barbery, L.J. Swango, P.R. Schnurrenberger. Cutaneous form of bovine papular stomatitis in man. *JAMA* 246:2813–2818, 1981.

Carson, C.A., K.M. Kerr. Bovine papular stomatitis with apparent transmission to man. *J Am Vet Med Assoc* 151:183–187, 1967.

Griesemer, R.A., C.R. Cole. Bovine papular stomatitis. I. Recognition in the United States. *J Am Vet Med Assoc* 137:404–410, 1960.

McEvoy, J.D., B.C. Allan. Isolation of bovine papular stomatitis virus from humans. *Med J Aust* 1:1254–1256, 1972.

Schnurrenberger, P.R., L.J. Swango, G.M. Bowman, P.J. Luttgen. Bovine papular stomatitis incidence in veterinary students. *Can J Comp Med* 44:239–243, 1980.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals*, 8th ed. Ithaca: Comstock; 1988.

Tripathy, D.N., L.E. Hanson, R.A. Crandall. Poxviruses of veterinary importance: Diagnosis of infections. *In*: Kurstak, E., C. Kurstak, eds. Volume 3: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

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## ƕĭɀƦøǳǁƐ ƕĭǂĭƦƐƥǴǁƐ ĂDžƟǁƐ
## BRAZILIAN HEMORRHAGIC FEVER

### ǌƥƆɋ ƕĭǂDžƥ ƖƑƨǋƥĭƻǴ ƕĭɀƦøǳ ƖƑƉDžƟ ICD-10 A 96.8
### ICD-10 A96.8 Other arenaviral hemorrhagic fevers

ȸŋ ÆĿÆDZ ʐȒȝ ÛàĬÛöä åÄÄŋ ƙÕä ɃşĬφø âşƘʐ ÛSabiá ĬÆäĬè âşƘʐ ˸ğĬÆǴǴÊöä ÀŢφä) Arenaviridae ǴĿŸŋÀöä ğĬèşƘÄöä ǴŸÆÕʐ ȸŋ *Arenavirus ǴĿŸŋÀöä ǴèşƘÄöä* ÈÆDZ Ž ·Tacaribe ÆĿäøĬõÄǩ ÆõÄŋ БǓ âşƘÄöä äØȽ ɄȶǪÄ ·(ǴĿźÂøÄöä ǴĿÆǪÄDZøĵä ʔȶΣä ŌÔʐ ʐǪÄøĬφäʐȡ) ÆõÄţä äØȽ Ž ʔÀǹĵä ǴÊȶɭä ğĬèşƘÄöä ȝŋ ĬǴĿÄè âşƘÄö ǴφøÄÕŋ ÆĿøĬõÄǩş ÛPichindé ɃÆĿÎĿäş ÛMachupo ʐäʐÎǨÄŋş ÛJunín ƙφʐDZş ÛGuanarito äÆȝĬǴǩ ǥƘ8Ôöä ǴĿÆÕä ǴȞÛŐŸö äÆĿǩʐŸÕφ 250 ȸŋ ǴĿöäʐǪŋ ŌĿŸƠ ÀƮşǕ ˸(Tacaribe ·ʐäʐÎǨÄŋş ƙφʐDZş ʐǪÄøĬǩäʐȡ ğĬèşƘÄä ĘŸĦǪÄ ĬȶĿź %65 ȻøäÆÕŋ Divergence

[illegible] 1994 [illegible] .ultracentrifuge

[illegible] index case [illegible] 12 [illegible] 25 [illegible] 40-38 [illegible] 39 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Lisieux, T., M. Coimbra, E.S. Nassar, *et al.* New arenavirus isolated in Brazil. *Lancet* 343:391–392, 1994.

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## CALIFORNIA ENCEPHALITIS [illegible]

**ICD-10 A83.5**

.La Crosse [illegible]

[illegible] 14 [illegible] 10 [illegible] Bunyaviridae [illegible] *Bunyavirus* [illegible] 100 – 90 [illegible]

[illegible] Jamestown Canyon [illegible] .(CDC, 1982) 1980 [illegible] 1945 [illegible]

McFarlane *et*) .(Snowshoe

Tahyna .(*al*., 1982

Inkoo

.(White, 1989)

arboviruses

:1970 – 1960

509

.(CDC, 1981) 109 :1978

29 :1992 .(Work and Work, 1991)

.(CDC, 1993) 1964

Johnson,) 130 – 60

%6 .(1990

%60

50 %75

%60 %5

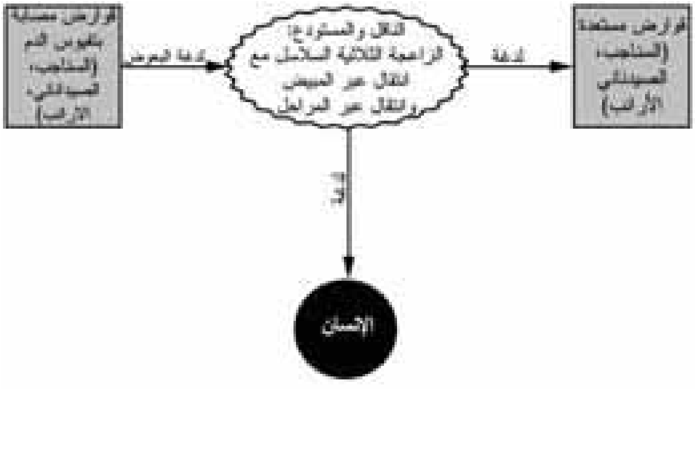
103 24

.(Work and Work, 1991)

.(Johnson, 1990)

.Jamestown canyon

.(CDC, 1982)



[illegible] *Tamias striatus* ([illegible]) chipmunk [illegible] .(Thompson, 1981)

[illegible] :(10 [illegible]) [illegible] *Aedes triseriatus* [illegible] (*T. striatus, Sciurus carolinenis S. niger*) [illegible] .(*Sylvilagus floridans*) [illegible] (*S. carolinensis*) [illegible] (*T. striatus*) [illegible] 5 – 2 [illegible] 17 – 15 [illegible]

[illegible] $F_1$ [illegible]

[illegible] diapause [illegible]

[illegible] (*Vulpus fulva*) [illegible] .(Amundon and Yuill, 1981) [illegible]

.*Aedes albopictus* [illegible] 4 − 1 [illegible] 1985 [illegible] .(Cully *et al.*, 1992) [illegible]

[illegible] *Aedes* [illegible] (*A. capius* [illegible] *A. vexans* [illegible] Jamestown canyon [illegible] .*A. communis* [illegible] *Culieseta inornata* [illegible]

âşĶζ åÀÀQèä ·(CDC, 1982) (*Odocoileus virginianus*) ŌÀØöä R̀Ææǂä ŌÀqä ǦöÀǹ ğϒʒÀÀţä ȸŋ ÀÆöÀʒ ÌɍÆȞŋ ɃζƷ ɃǾöäş Û*Lepus americanus* ɃƎöä Æφøǂä ȸŋ ζìζÀè *ǦDzʒäÂöä* ζȽ ŌęÀÀöä ȷζȮÀ Àŋø ·(*Alces alces Americana*) øüÀöä ȬöǾõş ÛǦÆDZζöşĶÊöä McLean *et al*., 1975; McFarlane *et al*.,) *A. Canadensis ǦÀÆÀȮöä ǦDzʒäÂöäş ǦȞəÀÎöä*

ȷÜ ÆõúÀ Àư ÛäÆÀõ Ž ȷζõζä Ž *ǦDzʒäÂöä* ţäζφÜ Û ô ζȞä ğÀęÀÀ ȸŋ âşĶÀöä åÀÀQèä ·(1982 R̀ÆǦţä Ǝʒ ȯÀÖQφɍÀä Ȭöæş ğÀʒÀÀǩøɍä ȬÝǩ Ž ǦÆèÀÖöä öÀQÎöä ȣşÀş Ž ÀÆǵ ʔÖǦÀ âşĶÀöä ·(McLean *et al*., 1975)

âşĶÀö ɄÊÆəÀöä ŌęÀÀöä ɄȽ *ŌèϒÊöä ǦÆφϒǰöä ǦDzʒäÂöä* ፡ ô Àţä ğÀÆəÀæş Ž ğÀφäζÆΣä øşå Ōõ ʒÆÛQÊÀ ፡ǦÆöȼä ȻǾöş · R̀ÆǦţä Ǝʒ ŌŋÀȞöä ȯÀÖQφÀä ȼö ţåζQÊȶõ ȬöǾõ ӯÆơş Û âşÀõɍ Ž öÀQÎöä ɄR̂ɛ ȷÜ ÀÆφøζÀÆöÀõ ÆõÀŋ ȸŋ ʔÀǹǂä ğÀèşĶÀöäş âşÀõɍ âşĶζ ȸŋ ğÀȶÁR̂ȶõ ğÀÀøÀÖÀöä ӯÆơ ·(ζìζÀè âşĶζ) ğÀǹÀÀţä åÀäÜ Ž ʔøQǵ şÜ ǦöÆQȞŋ ğÀǹÀÀŋ Ǝʒ ȯÀÖQφɍä ȸŋ ÀϒõȷǂÛ ô Àţä ÀÆDZζöζȮÀÜ Ž ǦȶƬŋ öÀÀζQǂä ȻǾȽş ÛζÆÔöä Ž âşĶÀϒö ǦÆÀüζǩ ȷÀȶR̂ö ÀÆǦÊφ ȣÀõ Ķȡ ôζȞǦöä Ž âşĶÀϒö venereal ÀÆÊÀDZ ȯÀÖQφɍäş R̀ÆǦţä Ƀζǭ ȷÀÊφqä ·(Amundson *et al*., 1981) ǦäÀÔţä ȨüÀÀţä Ž ɄøφøζÀÆöÀÒöä ȟÀŋÆöä āÀƬQöä ·ǦÆȞÆǦÛöä øúǦöä ȸŋ ʔşÆȞöä ÙÖQϒÀ ô øÀʒ

ȻøäÆÖŋ ţÀÀǩøÀζ ÛɄDZζöşĶÊöä ȮÆÁÎQöÀä ɃƎQƯ ğÀǦφÜ ƂÜ ȯζȍζöä ȸȮɛ ፡ȮÆÁÎQöä Àö ÆQȞŋ ǦȽÀÖÀöä øζüş åÀΣä øζÛöä Ž ǥæζǹüţä ŌÔţä ğÀÀÆʒ ƙä ÀǯõÜ şÜ ȣÀȞȓÜ 4 ÛǦȶȶQţä ǨÆǦǰş ÛɃζŋÆöä î äÀQöä ÙÆǦǰǩ ፡ɄȽ ÀŋäÆÁQèä ÀǯõǂäğäøÀǦQǹɍä ·significant ÂDzÀÀ ɍ ȸÒö ŌR̂Àţä ζȽş ÛǦÆèÀÊǵ ÀǯõǂäζȽ âşĶÀöä ȯäÆȞQèä øÀǦQǹä · âşĶÀöä ȯäÆȞQèäş ȸʒ ÀÀǹüQŋ åäÆȓǂä ƵÎÒÀ ȼφÜ ǦȶȶQţä øÀǦQǹä ÙşÀÊŋ ·ǦϒÆϒę ğäƎQƯ Ž ğɍÀǵ Ž ɍÜ ğäÆR̂QÊţä ǯÀQφÜ Ž ğÀæζȞò õÀÀƬζ ɃζŋÆöä î äÀQöä ÙÆǦǰǩ ÀŋÜ ÛʔÀǹǂä ğäøÀǦQǹɍä âşĶÀöä ȯäÆȞQèä øÀǦQǹä Ōǰŋ ǦèÀÊǵ ɄȽş ÛÀìÀǦŋϒöä ɄʒÀÀţä ȨöüQöä ǦÆÀÖǩ ğøζü ·ǦÀøşÀR̂öä ɄȽ ʔÀǹÜ ǦÆÀÖǩ Ǩǵ̀ÀQęä ·(Beaty *et al*., 1982) ÀäÀƟÜ ŌƬèÜş ÛɃζŋÆöä î äÀQöä ÙÆǦǰǩ şÜ ·ɄʒÀÁÀöä ŌəÀÊöäş ȯÀÔŋǂä Ž M ǰÀǂä åäÆȓÜ ƵÎÒö ǦÆɛÂøφǂä ǦÆʒÀÀţä ǦÊÀÀÖţä ӯäÆÁQèä

*et al.*,) (1985


Amundson, T.E., T.M. Yuill. Natural La Crosse virus infection in the red fox (*Vulpes fulva*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*) and opossum (*Didelphis virginiana*). *Am J Trop Med Hyg* 30:706–714, 1981.

Andrewes, C., H.G. Pereira. *Viruses of Vertebrates*. 3rd ed. Baltimore: Williams & Wilkins; 1972.

Balfour, H.H., Jr., C.K. Edelman, F.E. Cook, *et al.* Isolates of California encephalitis (La Crosse) virus from field-collected eggs and larvae of *Aedes triseriatus*: Identification of the overwintering site of California encephalitis. *J Infect Dis* 131:712–716, 1975.

Beaty, B.J., J. Casals, K.L. Brown, *et al.* Indirect fluorescent-antibody technique for serological diagnosis of La Crosse (California) virus infections. *J Clin Microbiol* 15:429–434, 1982.

Berge, T.O., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*. 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75–8301).

Chamberlain, R.W. Arbovirus infections of North America. *In*: Sanders, M., M. Schaeffer, eds. *Viruses Affecting Man and Animals*. St. Louis: Green; 1971.

Cully, J.F., Jr., T.G. Streit, P.B. Heard. Transmission of La Crosse virus by four strains of *Aedes albopictus* to and from the eastern chipmunk (*Tamias striatus*). *J Am Mosq Control Assoc* 8:237–240, 1992.

Downs, W.G. Arboviruses. *In*: A.S. Evans, ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Dykers, T.I., K.L. Brown, C.B. Gundersen, B.J. Beaty. Rapid diagnosis of LaCrosse encephalitis: Detection of specific immunoglobulin M in cerebrospinal fluid. *J Clin Microbiol* 22:740–744, 1985.

Henderson, B.E., P.H. Coleman. The growing importance of California arboviruses in the etiology of human disease. *Prog Med Virol* 13:404–461, 1971.

Johnson, K.M. California encephalitis and bunyaviral hemorrhagic fevers. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

McFarlane, B.L., J.E. Embree, J.A. Embil, K.R. Rozee, A. Artsob. Antibodies to the California group of arboviruses in animal populations of New Brunswick. *Can J Microbiol* 28:200–204, 1982.

McLean, D.M., S.K. Bergman, A.P. Gould, P.N. Grass, M.A. Miller, E.E. Spratt. California encephalitis virus prevalence throughout the Yukon Territory, 1971–1974. *Am J Trop Med Hyg* 24:676–684, 1975.

Moulton, D.W., W.H. Thompson. California group virus infections in small, forest-dwelling mammals of Wisconsin: Some ecological considerations. *Am J Trop Med Hyg* 20:474–482, 1971.

Parkin, W.E. Mosquito-borne arboviruses other than Group A, primarily in the Western Hemisphere. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Patrican, L.A., G.R. DeFoliart, T.M. Yuill. La Crosse viremias in juvenile, subadult and adult chipmunks (*Tamias striatus*) following feeding by transovarially-infected *Aedes triseriatus*. *Am J Trop Med Hyg* 34:596–602, 1985.

Thompson, W.H., A.S. Evans. California encephalitis virus studies in Wisconsin. *Am J Epidemiol* 81:230–244, 1965.

Thompson, W.H. California group viral infections in the U.S. *In*: Baran, G.W., section ed. Section B, Vol 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Encephalitis surveillance. Annual summary* 1978. Atlanta: CDC; 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral encephalitis—United States, 1982. *MMWR Morb Mortal Wkly Rep* 31:433–435, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral diseases—United States, 1992. *MMWR Morb Mortal Wkly Rep* 42:467–468, 1993.

Watts, D.M., S. Pantuwatana, G.R. DeFoliart, T.M. Yuill, W.H. Thompson. Transovarial transmission of LaCrosse virus (California encephalitis group) in the mosquito *Aedes triseriatus*. *Science* 182:1140–1141, 1973.

White, G.B. Other encephalitides. *In*: World Health Organization (WHO), Vector Biology and Control Division. *Geographical Distribution of Arthropod-borne Diseases and Their Principal Vectors*. Geneva: WHO; 1989 (WHO/VBC/89.67).

Work, T.H. California encephalitis. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.

Work, M.J., T.H. Work. Arbovirus. *In*: Carballal, G., J.R. Oubiña, eds. *Virología médica*. Buenos Aires: El Ateneo; 1991.

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## CHIKUNGUNYA VIRUS DISEASE ƑĭďNjƸďNjǀĭȴ ƧNjƥĭƺ ƀƐƣ

**ICD-10 A92.0**

·ĠȴÂøÀöä ÀȴȥȣȥȮȴȉ ʔþ ÛÀȴȥȣȥȮȴȉ ʔþ ˙ğÀȥåäÀţä

ÈÀƊ БǕ ɄʈǪÀ ÛƘÕä ɃşÀȹø ȧÀÛöä åÀÀŋ âşƘȥ ȥȴş ÛÀȴȥȣȥȮȴȉ âşƘȥ ˙ğÀȴGGÊöä ğÀŸÔÀţÀæ ĠöȥŎÀţä ğÀèşƘÀöä ȸŋ A Ğȝȥʈ Öä) *Alphavirus* ĠÀşÀÀöǰä ĠèşƘÀöä

[illegible] Togaviridae [illegible] Nyong [1] [illegible] Mayaro [illegible] 60 – 50 [illegible] Semliki [illegible] [2] [illegible]

[illegible]

[illegible] (Brighton *et al.*, 1983) 1977، 1976، 1975 [illegible] 1969 [illegible] 5 [illegible] Tomori *et al.*,) [illegible] (1975 [illegible] dormancy [illegible]

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1 [illegible] (Johnson *et al.*, 1981) 1978 [illegible] 1963 – 1959 [illegible] *funestus* [illegible]

2 [illegible]

(1986) ... 1984 ... 1970 ... 1.548 ... M ...

(Thein *et al.*, 1992) ... 110 ... 86 ...

... %33 ...

(Tesh *et al.*, 1975) ... 477 ... %14.3 ...

(Adesina and Odelola, 1991) ...

(Zhang *et al.*, 1991) ... 273 ... %10 ...

... (*Papio ursinus*) ... (*Cercopithecus aethiops*) ... (McIntosh, 1970) ... %50 ... (Kaschula *et al.*, 1978) ... (*Colobus abyssinicus*) ... 220 ... 2.3% ... (*P. dogueri*) ... (Zhang *et al.*, 1991) ...

Ûô Äţä ÈĢQöä Æęş Û1955 ȳÄȝ ğÄɳ óşǗ ÄÆφζ8φζȮÊÌ âşƘζ ắÄÄQèä ·ȷÄÊφqä Ž ôÄţä ɄəÄDzζ ŏÆĢä ÂÊŁQA ôÄɳ ȻζŸQAÛ ȳÄÄǗ 7 – 4 ζŁ ĜφÄȒΣä øşắ ·ŌφÆöä ʔþ ȝɳ ÛĞŸAζü ğÄQAöş ĞÊÄŁŸöä ÆŌȞöä ȴÅȒǨ ȷǗ ÄŁõ ÛĞŁĦQŸţä āÄȾQöäş ÄȾȚöä ɃǗş ȴȾęş ţäÆòş ȐζäζφşʔƥşĞAÄζÄζ ȝɳ ÛŌȮÎöä ɄøĢÔǵ ǴÄü (%80 ƂǗ %60) ʔȑÄţä ȸɳ ƘǰȮöä ÆÄȝ ÄȾȚA ·ȝəÄÌ ôäÄȝɉä ·ȳÄÄǗ 7 ƂǗ 3 Ōõ ɃÆŸƨä ţÄζÆφɍä ȝDzÄA Æę ·ȣäÄüɉäş ţØƨä ʔŸȝ ÛĦφÄÊǵǗ ğäƎǵş (%9) ȣÄȝǿş (%52) ğζȾŌä ȷζŸä ŏÄÊę ·ɄŁ øÄyÄÊɳ ȯÄÄüǗ ÆÄȝ ğǿζõØţä ʔÄǹɉä ƙ8öÄĢöä ʔȑÄţä ÆÄȝ ÆŁζÌÛ ÄÛÊÊɳ ôÄȝ ɄŸȒȞöä ȯŸQȝɍä ·(Thein *et al.*, 1992) (%8) āÆǵɉä chikungunya ɄøÄȞǨ ĞÊŸǵäζÊöä Ğ8Ÿöä ɄÄζ) ȼƨä ôÄţä ȨQÌä ȼÄɳş ÛîÄǹ ŌȮÎä Ž ĞòÄǹş ·ÈĢÊǨş ȳǿζǨş ɃÜä ɄŸȒȞöä ȯŸQȝɍä ÄŁÄȚQA ·(Walking hunchbacked ɄÌÄţä ĞÊÛÎţä ŌòÄÄţäş ĞĢõÄöäş ȤQȮöäş ȨζÄţäş ȴÔȞţä ŌòÄÄɳş ĞÊɳŸÊöä ĞÊȞAÊöä ŌòÄÄţä ȻÆQÊǨ Æęş ÛĞAÄÄÊöä ôäÄȝɉä ŏÆä ȸɳ ȳÄÄǗ 5-3 ÆȞä ÄȾȚǨş Û(Kennedy *et al.*, 1980) ôÄţä ȼĢÎA ÛĞÊǵÄAöä ȻØŁ Ž ·(Brighton *et al.*, 1983) ğäζÄè ʔøQǵş ğÆAÆȝ äÄȾÌǗ ğÄζş ĞöÄǵ ɃǗ ÂȞǨ Ƀ ·(Tesh, 1982) ɳφζÊφ ɳφζÊφşǗş ÈÊäÆAèş şøÄAÄɳş âşø ÄŒ ğÄÊþ ·ÄÆφζ8φζȮÊÌ âşƘζ ôÄţ

·ğÄφäζÊΣä Ž ÄÄAÄè ğÄŁÄȚöä ʔşÆȞöä ÂÆQ Ƀ ·ğÄφäζÊΣä Ž ôÄţä

ğÄȞŁθ ȷζȮǨ ÄɳÆÄȝ ÛÄüÄţä ŌÔÄöä Ž ôÄţä ϙÆȝ ·ȯÄŌQφɍä äÄüş ʔşÆȞöä øÆÔɳ ŌŸQö ĞòÄÎɳ ĞAÄä ĞŌŸǵ âşƘÄŸö ȷǗ ţζȑζţä ȯζǵ ϙÄШɉä ɄǵζǨ ·ÄőşøÆ Ž ôζȞĢöä *ĞÊŌAÄζɉä ĞDzȝäÂöä* ÄȾÊζ Äɳ ôζȞĢöäş ȯÄɋắɉä ğÄɳÆŌɳ ƙä øşÆǨş ÛòäÄÄÔöä ʔŁĦŸö Ʉøǫöä ·*furcifer-taylor* *ĞAøζŸAǫöä ĞÄÄÊèÄAöä ĞDzȝäÂöä* ĞȝζŁƒ ȸɳ ŏÄȒȝǗş *Aedes africanus* ÛøÄÊȞöä ƂÄȝ ȳắ âƘÄǨ *P. ursinus* dzÄäÄöäş *Ʉøäζǫɉä dzşắAŌöä* ÛĞAƎöä ğÄɳÆŌţä Ž ÆDzζA ĞÊŌAÄζɉä ŏäÄȒȴä ÈÊφÄÊAŸö âşƘAöä ŌŌÄǨ ôζȞĢöä ȷǗ ĞÊĢAÄθ ȣşÄş Ž ƙĢǨ Æęş ÄòÂDZ ĞȞAŁţä Ƙȡ ŏÄȒȝɉä Ōǰq ÄɳÆÄȝ ÈÊφÄÊAöä Ž ğÄζäζÊöä ϙÆƠ ·(McIntosh, 1970)

·ʔşÆȞŸö ȯÄȡắQö ĞȒÄQţä ȨüÄÄţä Ž ĞAÄÎĢöä ğÄȾŁƨä ôÄȞQǨ ÄɳÆÄȝş ÛğÄȾŁƨä ȸɳ ÄŁȾɳ ȯÄǨÄφ ȯÄƽ Ž ĜφζüζɳĞŌÛAɳ Ž (1969 – 1964) ğäζÄè 5 ğÄQζ ȯŸǹ ǨAÄDzǗ Ğèäøắ Ž

Бşɟä ĞÀÊöä Ž ÛĞÀƎöä ğÀŋÆÖʈä ȸŋ (%54) ĞĦÀǨÀŋ ĞÀƺÀŋ ĞĞÊɸ ʔÆö ÆDZş ˙ÀÆÖÀÀƺÜ āƺÀƛ ğƳʒÀÀʈä ǨɸÀõ ÛgÀϘÀöä ĞÀÀŒ Ž ȸÒö ÛáäÆr̀Ü ÆDZş ¯ ĞĦƺÀÆöä ğÀɸäƺÆΣä ÀƬÆƺ Àŋ ¯ Ɓ˙1964 ÿÀʒ ÆĦæ ·ğäƺÀè 4 ȸŋ ÀǯõÜ ÀŁÀʈʒ ɄøϘöä ğÀɸäƺÆΣä ɄŁ ġÆÆġƺöä ĞÆDZƺöşKÊöä ÈÆɸÀÊÀöä Ž âşKƺ ɃÜ ğÀĞϘÜ ÀÀÒư ȸÒÀ Ɓş Ûôƺ̌ĦĞöä ȸŋ âşKÀöä áäÀÀϘèä ÀÀÒư ȸÒÀ ğÀŋÆÖʈä ġÀƬƤ Ž ȣäƺè ϙÆġ ȼɸÜ ɉƺÀöüʈä ǰϘÀϘèä ·ġKǹɟä ġÀϘÀöä òƳǹ sentinel ġKÀʅä ġöÀĞʈä ȻØŁ Ž Ōçɟä ʔƳʒ ·âşKÀöä öÀÀϘǹä ÆÀʒ ʔƬϘɸä ȼɸÜş ÛġKÔç ġÀϘÀæ Ğèäøƺöä ŌĞç ȸŋş Û(âşKÀöä øäÀʈϘèɼ) ĞŢƺÀĦɄʈŸö öäƺϙüõ ĞÀƎöä ğÀŋÆÖʈä ÿÆơ ɼ ˙ĞòÀʅä ecosystem ÀǯõÜ ĞĞèÀÀŋ ǨɸÀõ ʔÀǹÜ ĘüÀÀŋ ȸŋ âşKƺ òÀǹấüæ ğÜÆæ Æç ĞÀæşɟä ɉƺÒǨ ɉÜ ŌʈϘǂä Ž 1981ş 1977 ɄŋÀʒ ƙæ Ğèäøá ǨÀÀDZÜ ·(McIntosh, 1970) (ȼǝÀÖĞö) ŌŋÀĦöä ĞŋƺƺÆö Ž ÿäÆϘèä Æç âşKÀöä ɉÀõ äæÜ ÀʈƐƺ ÆÀÆƠ ȣÆö ÀÆÖÀÀƺÜ āƺÀƛ òÀÀÊɸäÀǨ Ž ġKĞõ ĞʒøÀŋ ɉÀõ äæÜ ÀʈƐƺş Û1976 öÀæş òƳǹ ŌçÀÀöä ǨɸÀõ ɄøϘöäş *furcifer ĞÀÀÆèÀÀöä ĞDzʒäÀöä* ôƺĦæ ÛϙÀɸϙäş øƺõØöä ȸŋ ÀDZæƺƴ 11.393 ʒƤ Æçş ÛȒÆĞʈä Ǝʒ ŌŋÀĦöä ŌÖɸ ʔƳʒ ÀøáÀç ôƺ̌ĦĞöä âøá ˙Ōöæ ƂǗ ĞƺÀr̀Ü ·öÀæƺöä ÆĦæ Бşɟä ġÀƬʈɘä ȸŋ ŌŋÀĦöä áäÀÀϘèä ɉÀÒŋϙÀæ ȸÒÀ Ɓş ĞÆĞŸÊöä ǰǝÀϘÀöä ÈÀɸ ʔƳʒ òƺÔΣä Źş Û*ĞDzʒäÀöä* ȸŋ ʔÀǹÜ ʈäƺɸÜ ĞÊȒ ȸŋ ÀDZæƺƴ 13.029 ÙÖƺ ȼÊÀɸ ʔƳʒ ŞƺÀʒ âşKÀöä ɉÜ ğÀèäøÆöä ȻØŁ ȸŋ şÆĞÀ ·(Jupp and McIntash, 1990)

·ÆĦæ ŌŋÀõ ŌÒÎæ ÀƬϘÆDZƺöƺÒÀÜ ʅƬÀǨ Ɓş ÛÀÆDZ ĞòÀǹ ğäöÀĞŋ Ž ĞÖŸġ áƺDZş ŌʈϘǂä ȸŋş Û*ĞÀÀÔʈä ĞDzʒäÀöä* ƺŁ ĞÀÀȒΣä ğÀÆìÀÀöä Ž ɄÊÆǝÀöä ŌçÀÀöä ÆÀʒ ġÆŁÀÎʈä ÿÆöä âKÀǨ ȸŋ ĞÆöÀĦöä ğäøÀÆĦöä ʔƳʒ öÀÀæ ôƺ̌ĦĞöä ¯ ɉÀÊɸϙä ¯ ôƺ̌ĦĞöä ŌʈÎǨ ŌʈϘǂä ȸʈƺ ÛÀÆĞÊɸ ŸÀƺü *ĞÀÀÔʈä ĞDzʒäÀöä* Ž ɄDZøÀʅä ȸȒΣä ɉÀõ Àʈş ·ƙŋƺʈǂä ʔr̀Àʈä Àr̀Àʒ òşÀÀǨ ɃØöä ôƺ̌ĦĞÀæ ɄÒÆɸÀÒÆʈä ŌÖÀöä ȸʒ ĞÀæşɟä ȒĦĞö ĞÀDZÀÀʈä ĞĦÆĞÛöä ʅDzÀǨ ɉÜ Halstead) ȸÀÆĦϘÊŋ îÀÀìÜ ʔƳʒ ʔØȣǨ Ż ÿÆöä âKÀϘæ āÀÔŋ ȒÀÀŋ ȸŋ ÿá ĞĞDZş ȸŋş Û*Rousettus leshenaulti* êÀÀʅä ȸŋ ƙÔöÀæ ɉÀɸƺÀ Ž âşKÀöä áÀÀϘèä ·(1981 *Culex taeni*-ƺɸɟä *ĞÆÛÀÀÎöä ĞȒʒÀĞöä* ȸŋş *albopictus* *ȒÆɟÀæ ĞÛÖÀʈä ĞDzʒäÀöä* ˙ôƺ̌ĦĞöä ·(Zhang *et al.*, 1991) ÿƺʈŢ ȒÀÀŋ ȸŋş *orhynchus*

[illegible] ·VERO [illegible] (Thein *et al.*, 1992) [illegible] nested [illegible] PCR [illegible]

[illegible] .(Filipe and Pinto, 1973) [illegible]

[illegible] (Filipe and Pinto, 1973) [illegible] .(Turell and Malinoski, 1992) [illegible]

## [illegible]

Adesina, O.A., H.A. Odelola. Ecological distribution of Chikungunya haemagglutination inhibition antibodies in human and domestic animals in Nigeria. *Trop Geogr Med* 43:271–275, 1991.

Brighton, S.W., O.W. Prozesky, A.L. de la Harpe. Chikungunya virus infection. A retrospective study of 107 cases. *S Afr Med J* 63:313–315, 1983.

Filipe, A.R., M.R. Pinto. Arbovirus studies in Luanda, Angola. 2. Virological and serological studies during an outbreak of dengue-like disease caused by the Chikungunya virus. *Bull World Health Organ* 49:37–40, 1973.

Halstead, S.B. Chikungunya fever. *In*: Beran, G.W., section ed. Section B, Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1981.

Johnson, B.K., A. Gichogo, G. Gitan, *et al.* Recovery of o'nyong-nyong virus from *Anopheles funestus* in Western Kenya. *Trans R Soc Trop Med Hyg* 75:239–241, 1981.

Jupp, P.G., B.M. McIntosh. *Aedes furcifer* and other mosquitoes as vectors of Chikungunya virus at Mica, northeastern Transvaal, South Africa. *J Am Mosq Control Assoc* 6:415–420, 1990.

Kaschula, V.R., A.F. Van Dellen, V. de Vos. Some infectious diseases of wild vervet monkeys (*Cercopithecus aethiops pygerythrus*) in South Africa. *J S Afr Vet Med Assoc* 49:223–227, 1978.

Kennedy, A.C., J. Fleming, L. Solomon. Chikungunya viral arthropathy: A clinical description. *J Rheumatol* 7:231–236, 1980.

McIntosh, B.M. Antibody against Chikungunya virus in wild primates in Southern Africa. *S Afr J Med Sci* 35:65–74, 1970.

Pavri, K. Disappearance of Chikungunya virus from India and South East Asia. *Trans R Soc Trop Med Hyg* 80:491, 1986.

Pfeffer M., B. Linssen, M.D. Parke, R.M. Kinney. Specific detection of Chikungunya virus using a RT-PCR/nested PCR combination. *J Vet Med B Infect Dis Vet Public Health* 49(1):49–54, 2002.

Tesh, R.B. Arthritides caused by mosquito-borne viruses. *Annu Rev Med* 33:31–40, 1982.

Tesh, R.B., D.C. Gajdusek, R.M. Garruto, J.H. Cross, L. Rosen. The distribution and prevalence of group A arbovirus neutralizing antibodies among human populations in Southeast Asia and the Pacific islands. *Am J Trop Med Hyg* 24:664–675, 1975.

Thein, S., M. La Linn, J. Aaskov, M.M. Aung, M. Aye, A. Zaw, A. Myint. Development of a simple indirect enzyme-linked immunosorbent assay for the detection of immunoglobulin M antibody in serum from patients following an outbreak of Chikungunya virus infection in Yangon, Myanmar. *Trans R Soc Trop Med Hyg* 86:438–442, 1992.

Tomori, O., A. Fagbami, A. Fabiyi. The 1974 epidemic of Chikungunya fever in children in Ibadan. *Trop Geogr Med* 27:413–417, 1975.

Turell, M.J., F.J. Malinoski. Limited potential for mosquito transmission of a live, attenuated Chikungunya virus vaccine. *Am J Trop Med Hyg* 47:98–103, 1992.

White, A., S. Berman, J.P. Lowenthal. Comparative immunogenicities of Chikungunya vaccines propagated in monkey kidney monolayers and chick embryo suspension cultures. *Appl Microbiol* 23:951–952, 1972.

Zhang, H.L., H.F. Shi, Z.Q. Mi, *et al.* Discovery of the natural focus of Chikungunya in Yunan Province, China, and study of biological properties of Chikungunya virus. *Arthropod-borne Virus Information Exchange* 43–44, 1991.

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# COLORADO TICK FEVER ǊǫƐƥǊǁǊǀ ǫƐƥ5 ĂǄŽѲ

**ICD-10 A93.2**

·òÀ̗Ƨä ʔƥ ˙ϑåäÀţä

ȸŋ ȤöüǪÀ ÛƙęÀù şǽ ƙŎä ɃşÀφø âşƘʐ Ûşåäøʐöʐõ åäÀę ʔƥ âşƘʐ ˙ğÀƐǤÊöä ǦÀʐÀÄöä ğÀèşƘÀöä ǦƔƐÔʐ Û*Coltivirus* *ǦÀȚţä ǦèşƘÀöä* ÈÀǅ БŬ ɄȶǪÀş (ǦʐǼì) ǦĤÛę 12

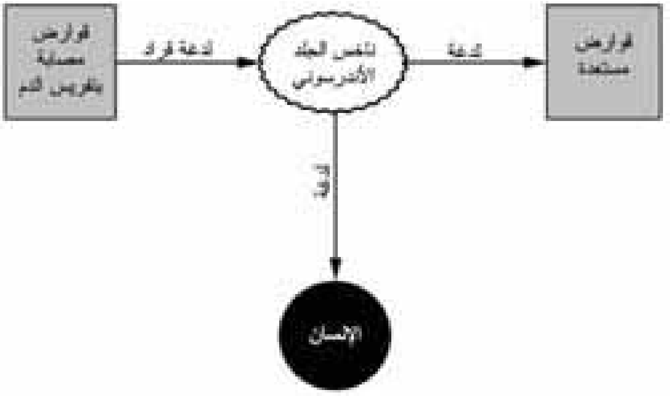
12 80 – 60 10 *Orbivirus* Eyach *Ixodes ricinus*

11 *Dermacentor andersoni*

400 – 200 174 (Mclean *et al.*, 1981) (Artsob and Spence, 1979)

6 – 3 %10 %50 4 (Emmons, 1988)

(Emmons, 1988)



*Eutamius minimus*

(*Citellus*) *lateralis* *Spermophilus*

*Eutamias amo-* *Citellus colombianus*

*enus*

[illegible] %6 [illegible] %5 [illegible]
[illegible] 20 [illegible] 15 [illegible] .(Bowen *et al.*, 1981)
[illegible]
[illegible]
Emmons,) [illegible] Overwinter [illegible] *S. lateralis*
[illegible] (1966
[illegible]
[illegible]
[illegible]
[illegible] lifespan [illegible]
[illegible]
[illegible] Porcupine [illegible]
.(Emmons, 1988) [illegible]

[illegible]
[illegible]
*Lepus*) Jackrabbit [illegible]
[illegible] *Sciurus griseus* [illegible] (*californius*
[illegible] .(Lane *et al.*, 1982) [illegible]
[illegible] *Lepus americans* [illegible]
[illegible]
[illegible]

[illegible]
[illegible] 1.300 [illegible]
[illegible] .%40 [illegible] %14 [illegible]
[illegible] 110 [illegible]

[illegible] (CDC, 1975a) [illegible]

[illegible]

[illegible]

[illegible]


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Artsob, H., L. Spence. Arboviruses in Canada. *In*: Kurstak, E., ed. *Arctic and Tropical Arboviruses*. New York: Academic Press; 1979.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An official report of the American Public Health Association. Washington, DC: American Public Health Association; 1990.

Berge, T.O., ed., *International Catalogue of Arboviruses*. 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75-8301).

Bowen, G.S., R.G. McLean, R.B. Shriner, *et al*. The ecology of Colorado tick fever in Rocky Mountain National Park in 1974. II. Infection in small mammals. *Am J Trop Med Hyg* 30:490–496, 1981.

Casals, J., D.H. Clarke. Arboviruses other than groups A and B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Downs, W.G. Arboviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Emmons, R.W. Colorado tick fever: Prolonged viremia in hibernating *Citellus lateralis*. *Am J Trop Med Hyg* 15:428–433, 1966.

Emmons, R.W. Ecology of Colorado tick fever. *Annu Rev Microbiol* 42:49–64, 1988.

Florio, L. Colorado tick fever. *In*: Beeson, P.B., W. McDermott, J.B.Wyngaarden, eds. *Cecil Textbook of Medicine*. 15th ed. Philadelphia: Saunders; 1979.

Lane, R.S., R.W. Emmons, V. Devlin, D.V. Dondero, B.C. Nelson. Survey for evidence of Colorado tick fever virus outside of the known endemic area in California. *Am J Trop Med Hyg* 31:837–843, 1982.

McLean, R.G., D.B. Francy, G.S. Bowen, R.E. Bailey, C.H. Calisher, A.M. Barnes. The ecology of Colorado tick fever in Rocky Mountain National Park in 1974. I. Objectives, study design, and summary of principal findings. *Am J Trop Med Hyg* 30:483–489, 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Transmission of Colorado tick fever virus by blood transfusion: Montana. *MMWR Morb Mortal Wkly Rep* 24:422, 1975a.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Colorado tick fever: Maryland. *MMWR Morb Mortal Wkly Rep* 24:219, 1975b.

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## CONTAGIOUS ECTHYMA ƕĭơyǱŽǁɛ ƕǱŽĭƙǀǕɛ

### ǌþƢǀǕɛ ƕĭþqǀǁɛ ƕƨǋþĭƻǁɛ ǌǋɛơY ICD-10 B08.0
### ICD-10 B08.0 Other orthopoxvirus infections

ɃȀǯǤöā ȴȦöā āȦŢöā ǕɃÆĦţā ɃȀǯǤöā ÆŸƨā āȦŢöā ǕOrf ȣøɉā âşƘ öáá ˙ğȦźáāȦţā ·ɃÆĦţā

ǦŸÔź) *Parapoxvirus* *ǦȹøÆƨā ǦèşƘȦöā* ÈÆǱ ȸŋ ǕƙŎā ɃşȦφá âşƘ ˙ğÆǤǤÊöā ÆŐȝ ÆǤÊǩ ɄøǪöā ğÀèşƘȦöā ȒȒȦ ȸȽȒǩ ɄøǪöāş Ǖ(Poxviridae ǦȹøÆƨā ğÀèşƘȦöā ÈƗŎɅ ·ɃȀŐǤöā ɃȀǯǤöā ȴȦöā āȦŢöāş (ā æȦŎöā ɃȀŐǤöā ɃøÆƨā) milker's nodule ƙǣŸΣā ƘǤõ ŎŎÎæ ¢ǱźǪöā ɃøȦŢşş ǦÆǤǤöā ȣşȦŢŸö ÆǱ ȳşȦŐŋ źȽş ·ȀǪŋ źφȦφ 260 × 160 ȷźɅƘȦöā .epitheliotropic

ğȦɍźöā Ž ÆǱźɅ ·ȳȦǭɉā ɄøǣȀǩ ɄøǪöā ȷáÆŸǤöā Őõ Ž ôȦţā ÆǱźɅ ˙ŽāȀȣƨā ţäźǪöā

[illegible]

[illegible] 1975 [illegible] 143 [illegible] 1979 [illegible] (Robinson and Petersen, 1981) [illegible] 231 [illegible] 18 [illegible] %1.4 [illegible] Robinson and Petersen, 1983) [illegible] 18 [illegible] .(Timoney *et al.*, 1988 [illegible]

[illegible] enzootic [illegible]

[illegible] 3 [illegible] 6.300.000 [illegible] %0.5 [illegible] extrapoltion [illegible] %2.2 [illegible] .(Robinson, 1983) [illegible] 1.250.000 [illegible] 13 [illegible] 4.350 [illegible] 1.150 [illegible] 240 [illegible] 8.823 [illegible] 3.492 [illegible] 1985 [illegible] 1986 [illegible] .(Munz *et al.*, 1991) [illegible] (%1.1)

[illegible] 7 – 3 [illegible]

4 – 2

21

Johannessen *et al.*,) 19 6 60

(1975; Leavell *et al.*, 1968

3 – 2

11

.*Cochliomyia hominivorax*

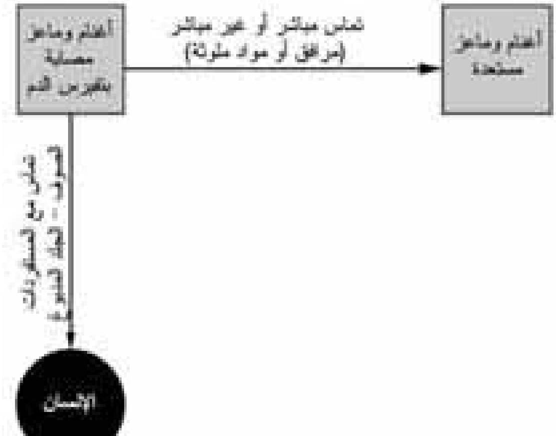
(12

ƀƧʐţä ǫşÆΣä ǈDzÀÀ Æę ·ÀƬìÜ ǥÆȝ ğÀGŸƨä Ž ÀĿǵ ɁÕGÀş ȣÀÀDzŸö ÿşÀÖŋ âşKÀöä ·ĞǫʐŸţä ğÀGŸƨÀæ ƀȝäÀţä ǫʐŸǩ ȸȝ ÛǥÆĤǪÊŋ ĞĤʐÀÀ ğÀǫäʐĿǵ ōÀÀŁ ǰʐÒÀ ɃØöä Ǩęʐöä Ž ğÀĿìÀÀŸö Àƣ ÛǈÀöä ǥøÀƬş ɃæúÀ ǰÜ (ȣÀƨä) ƀèÀÖöä ɁȝÀȶŸö ȸÒɣ ·ĞÀÆĤÀţä ğÀǫäʐĿΣä ȝŋ âÀȶǪöä ȸŋş ·ɁşÆĤöäş âşKÀöä ȧäÀǪǹä ŌƬÊÀ

ǈǪÀş Ûô Àţä ğÀʐÜ ÀƬĿʐ ğÀǫäʐĿǵ ȝŋ âÀȶǪöä ĞDzĿǪǫ ôøÀȝ ŎÒÎæ ǰÀÊǫq̈ä ɃÆĤÀÀ ŌȶǪƮ øÆÔŋ ōÀÀŁ ·ƀÀÊţä ŌȶĤö ĞGÊÀöÀæş ·ĞÀÆŸDZ ȧʐŌì ɃÜ şÜ ğÀDzȞÊǪöä Ƌȝ ȯÀÖǪɍä ȸŋ āÀÖÀ Àŋ ÀƬĿʐ ɁÕGÀ ǰÜ âşKÀŸö ȸÒɣ ǬĿǵ Ûğ ÀǫäʐĿΣä ȣʐòş ÆŸDZ ʐŁş ɁşÆĤŸö ÀǹÜ ǰʐȞÕŸÀ ȸÀØöä îÀÁìǂä ôÀĤǪÀ Àȶõ ·(Robinson, 1983) ğÀʐǿä ŏÀÀǪǹä ÆĤæ ÀƬÎöä ·ÀȒÀÜ ɁşÆĤŸö ƀǵ dzÀÖŸæ ğÀǫäʐĿΣä

ţʐęş şæ ÛøÆÔţä ƀøǫäʐĿǵ ôÀŋ ĞÀÆĤţä ĞȶĿǯõq̈ä : ôÀţä ğÀĿɘÀæş Ž ğÀǫäʐĿΣä øşå ·ǰÀÊǫq̈ä Ž ȒÀÁÀŋ

·ȯÀÖǪɍä ĞÕŸǵ - ĞÀÆĤţä ĞȶĿǯõq̈ä :12 ŎÒÎöä



ȝȓş Æʑ ·ÒĿÁÎǪöä ÆĿùʐǪö ĞĿʐÀõ ÿÀÀǳǂäş ÂȝÀţä Ž ĞÀÀÀÊöä ôäÀȝǂä :ÒĿÁÎǪöä ğÀGŸDZş ğÀǵÀę ȝŋ) ƀǵÀÖǪöä ÆŸƨä āÀƬǪöäş (ÆÀÆì ƀȝʐȶƒ ŎȝÀÀǩ ȝŋ) ÿÀÀǳǂä ɃøÆDZ ·ƀÕÀÀÀǪöä ÒĿÁÎǪöä ȸȶȓ (ĞĿŸèÀÀǪöä ŏÀȒȝǂäş ÿäÆęǂäş ȼDZʐöä ÆŸDZ ɁŸȝ

[illegible] [1] [illegible] .(Torfason and Gunadottir, 2002) [illegible]

[illegible] pulverized [illegible] [3] [illegible] Robinson and) [illegible] .(Balassu, 1981 .(Mayr *et al.*, 1981) [illegible]

[illegible]


Buddle, B.M., R.W. Dellers, G.G. Schurig. Contagious ecthyma virus-vaccination failures. *Am J Vet Res* 45:263–266, 1984.

Deeking, F. Contagious pustular dermatitis. *In*: Van der Hoeden J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Erickson, G.A., E.A. Carbrey, G.A. Gustafson. Generalized contagious ecthyma in a sheep rancher: Diagnostic considerations. *J Am Vet Med Assoc* 166:262–263, 1975.

Hanson, L.E. Poxviruses. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield: Thomas; 1975.

Jensen, R. *Diseases of Sheep*. Philadelphia: Lea and Febiger; 1974.
Johannessen, J.V., H.K. Krogh, I. Solberg, A. Dalen, H. van Wijngaarden, B. Johansen. Human orf. *J Cutan Pathol* 2:265–283, 1975.
Kerry, J.B., D.G. Powell. The vaccination of young lambs against contagious pustular dermatitis. *Vet Rec* 88:671–672, 1971.
Leavell, U.W., M.J. McNamara, R. Muelling, W.M. Talbert, R.C. Rucker, A.J. Dalton. Orf. Report of 19 human cases with clinical and pathological observations. *JAMA* 203:657–664, 1968.
Mayr, A., M. Herlyn, H. Mahnel, A. Danco, A. Zach, H. Bostedt. Bekampfung des Ecthyma contagiosum (Pustular dermatitis) der Schafe mit einem neuen Parenteral-Zellkultur-Lebendimpfstoff. *Zentralbl Veterinarmed [B]* 28:535–552, 1981.
Moore, R.M., Jr. Human orf in the United States, 1972. *J Infect Dis* 127:731–732, 1973.
Munz, E., T. Gurtner, O.J. Hubschle. Zur Orf-Infecktion bei Boerenziagen in Namibia. *Tierarztl Umschau* 46:86–93, 1991.
Robinson, A.J. Prevalence of contagious pustular dermatitis (orf) in six millson lambs at slaughter: A three year study. *N Z Vet J* 31:161–163, 1983.
Robinson, A.J., T.C. Balassu. Contagious pustular dermatitis (orf). *Vet Bull* 51:771–782, 1981.
Robinson, A.J., G.V. Petersen. Orf virus infection of workers in the meat industry. *N Z Med J* 96:81–85, 1983.
Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals: With Reference to Etiology, Epizootiology, Pathogenesis, Immunity, Diagnosis, and Antimicrobial Susceptibility*, 8th ed. Ithaca: Comstock; 1988.
Torfason E.G., S. Gunadottir. Polymerase chain reaction for laboratory diagnosis of orf virus infections. *J Clin Virol* 24:79–84, 2002.

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# COWPOX ƥƫǦǁɛ ăƥɋɰ

### ǌƥƇǕɛ ƕȉƥɋɰǁɛ ƕɀǋƥȉƻǁɛ ǌǋɛɋƳ ICD-10 B08.0
### ICD-10 B08.0 Other orthopoxvirus infections

Èęɀöä âşƘɀ ȸз ɭǅȀȀöä ôȀţä ȸз ǦŌȀȀȀɊö) ƟȞƐǦÛöä ȀŎǦöä ƁøƐǅ ˙ğȀɀâäȀţä .(vaccinia

ǦŸƐÔɀ *Orthpoxvirus* *ǦȀøƐɀä ǦèşƘȀöä* ÈȀɀ ƟɫɊȀȀ ƙŎä ƁşȀɸå âşƘɀ ˙ğȀƐǦǦÊöä ˙Èęɀöä âşƘɀ ɀŁ *ǦȀøƐɀä ǦèşƘȀöä* ÈȀɀ ƟÛɫȀöä ţɀȀöä .Poxviridae ǦȀøƐɀä ğȀèşƘȀöä Ɀö ȀTş ÛȀɊɳɀɸȀɸ 100 × 240 × 300 ƃäɀǥ ÈƐŎǩ ÛŎȮÎöä ǦȀƐƐɳȀę ÈȀɀä äØŁ ğȀɸɀȀƘɀ ğȀèşƘȀöä ƎõǕ ƟŁ ǦȀøƐɀä ğȀèşƘȀöä ˙ƟǅøȀʅä öȀÎ8öä ɁŸз ğȀǦƐǦȀöä ȸɳ ɭŢɊȀɳ Ƙɖ

[illegible] (variola [illegible]) smallpox [illegible] [illegible] °40 [illegible] (Baxby *et al.*, 1979) [illegible] (Naidoo *et al.*, 1992) [illegible]

[illegible] Amer *et al.*,) [illegible] Odend'hal,) [illegible] (2001 [illegible] (1983

[illegible] enzootic [illegible] 7 [illegible] *Glethrionomys* [illegible] 1.076 [illegible] (*Apodemus sylvaticus* [illegible]) [illegible] (*glareolus* Hazel *et al.*, 2000; Chantrey *et al.*,) [illegible] 36 [illegible] 17 [illegible] (1999

(1977, 1979)

12 1981 – 1969 13 20

23 1993 – 1982

(Baxby, 1994)

Blackford et al.)

(Amer et al., 2001 al., 1993

30

(Bennett et al., 1990)

200 %4

520 6

%10.1 217

(Tryland et al., 1998)

1974 – 1973

(Marennaikova et al., 1977)

%42 pumas

%30

Marennaikova)

(et al., 1978

fulvous (Rhombomys opimus)

(*Citellus fulvus*

(elephantpox

.(Baxby *et al.*, 1982)

5 303 218

202 67 277

38 13 106 61

.(Jacoby, 1992)

5

6 – 3

Tripathy *et al.*,)

.(1981

18

spikiy

.(Eis-Hubinger *et al.*, 1990)

[illegible] Baxby *et al.*, 1982; Marennikova *et*) [illegible] .(*al.*, 1977 [illegible] 7 – 5 .(Hoare *et al.*, 1984) [illegible] 8 – 6 [illegible] 8 [illegible] 3 – 2 [illegible] (*Microtus oeconomus* [illegible]) [illegible] 5 [illegible] .(Zhukova *et al.*, 1992) [illegible]

[illegible] Hazel *et al.*,) [illegible] .(2000 [illegible] (Wolfs *et al.*, 2002) [illegible] pumas [illegible]

[illegible]

[illegible] (Baxby *et al.*,) [illegible] (Schupp *et al.*, 2001; Wiencke *et al.*,) [illegible] (1979 .(2000

[illegible] (Munz *et*) [illegible] MVA [illegible] (*al.*, 1993 [illegible]

[illegible]


Amer, M., I. El-Gharib, A Rashed, F. Farag, M. Emara. Human cowpox infection in Sharkia Governorate, Egypt. *Int J Dermatol* 40:14–17, 2001.

Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams and Wilkins; 1972.

Andrewes, C.H., J.R. Walton. Viral and bacterial zoonoses. *In*: Brander, G.C., P.R. Ellis. *The Control of Disease*. London: Baillière Tindall; 1977. (Animal and Human Health Series).

Baxby, D. Poxvirus hosts and reservoirs. *Arch Virol* 55:169–179, 1977.

Baxby, D. Cowpox: Increased incidence or interest? *Lancet* 343:543, 1994.

Baxby, D., A.D. Osborne. Antibody studies in natural bovine cowpox. *J Hyg (Lond)* 83:425–428, 1979.

Baxby, D., W.B. Shackleton, J. Wheeler, A. Turner. Comparison of cowpox-like viruses isolated from European zoos. Brief report. *Arch Virol* 61:337–340, 1979.

Baxby, D., D.G. Ashton, D.M. Jones, L.R. Thomsett. Outbreak of cowpox in captive cheetahs: Virological and epidemiological studies. *J Hyg (Lond)* 89:365–372, 1982.

Bennett, M., C.J. Gaskell, D. Baxby, R.M. Gaskell, D.F. Kelly, J. Naidoo. Feline cowpox virus infection: A review. *J Small Animal Pract* 31:167–172, 1990.

Blackford S., D.L. Roberts, P.D. Thomas. Cowpox infection causing a generalized eruption in a paitent with atopic dermatitis. *Br J Dermatol* 124:628–629, 1993.

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals, with Special Reference to Etiology, Diagnosis, and Biologic Therapy*, 6th ed. Ithaca: Comstock; 1973.

Chantrey, J., H. Meyer, D. Baxby, M. Begon, K.J. Bown, S.M. Hazel, *et al.* Cowpox: Reservoir hosts and geographic range. *Epidemiol Infect* 122:455–460, 1999.

Dekking, F. Cowpox and vaccinia. *In*: Van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Downie, A.W. Poxvirus group. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Eis-Hubinger, A.M., A. Gerritzen, K.E. Schneweis, *et al.* Fatal cowpox-like virus infection transmitted by cat. *Lancet* 336(8719):880, 1990.

Food and Agriculture Organization (FAO), World Health Organization (WHO), and International Office of Epizootics. *Animal Health Yearbook 1971*. Rome: FAO; 1972.

Food and Agriculture Organization (FAO), World Health Organization (WHO), and International Office of Epizootics. *Animal Health Yearbook 1975*. Rome: FAO; 1976.

Hazel, S.M., M. Bennett, J. Chantrey, K. Bown, R. Cavanaugh, T.R. Jones, *et al.* A longitudinal study of an endemic disease in its wildlife reservoir: Cowpox and wild rodents. *Epidemiol Infect* 124:551–562, 2000.

Hoare, C.M., T.J. Gruffydd-Jones, M. Bennett, R.M. Gaskell, D. Baxby. Cowpox in cats. *Vet Rec* 114:22, 1984.

Jacoby, F. Untersuchungen zur Epidemiologie des Kuhpockenvirus in der Bundesrepublik Deutschland. Giessen: Justus-Liebig University; 1992. [Thesis in Veterinary Medicine].

Marennikova, S.A. Field and experimental studies of poxvirus infections in rodents. *Bull World Health Organ* 57:461–464, 1979.

Marennikova, S.A., N.N. Maltseva, V.I. Korneeva, N.M. Garanina. Outbreak of pox disease among Carnivora (Felidae) and Edentata. *J Infect Dis* 135:358–366, 1977.

Marennikova, S.A., E.M. Shelukhina, V.A. Fimina. Pox infection in white rats. *Lab Anim* 12:33–36, 1978.

Munz, E., S. Linckh, I.C. Renner-Müller, M. Reimann. Die Wirksamkeit einer Immunisierung mit Vaccinia-Virus Stamm "MVA" gegen eine Infektion mit Kuhpocken-Virus Stamm "OPV 85" beim Kaninchen. [The efficacy of immunization with vaccinia virus strain "MVA" against infection with cowpox virus strain "OPV 85" in rabbits]. *Zentralbl Veterinarmed [B]* 40:131–140, 1993.

Naidoo, J., D. Baxby, M. Bennett, R.M. Gaskell, C.J. Gaskell. Characterization of orthopoxviruses isolated from feline infections in Britain. *Arch Virol* 125:261–272, 1992.

Odend'hal, S. *The Geographical Distribution of Animal Viral Diseases*. New York: Academic Press; 1983.

Schupp P., M. Pfeffer, H. Meyer, G. Burck, K. Kolmel, C. Neumann. Cowpox virus in a 12-year-old boy: Rapid identification by an orthropoxvirus-specific polymerase chain reaction. *Br J Dermatol* 145(1):146–150, 2001.

Tripathy, D.N., L.E. Hanson, R.A. Crandell. Poxviruses of veterinary importance: Diagnosis of infections. *In*: Kurstak, E., C. Kurstak, eds. Vol. 4: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Tryland, M., T. Sandvik, L. Holtet, H. Nilsen, O. Olsvik, T. Traavik. Antibodies to orthopoxvirus in domestic cats in Norway. *Vet Rec* 143(4):105–109, 1998.

Wienecke, R., H. Wolff, M. Schaller, H. Meyer, G. Plewig. Cowpox virus infection in an 11-year-old girl. *J Am Acad Dermatol* 42(5 Pt 2):892–894, 2000.

Wolfs, T.F., J.A. Wagenaar, H.G. Niesters, A.D. Osterhaus. Rat-to-human transmission of cowpox infection. *Emerg Infect Dis* 8(12):1495–1496, 2002.

Zhukova, O.A., S.A. Tsanava, S.A. Marennikova. Experimental infection of domestic cats by cowpox virus. *Acta Virol* 36:329–331, 1992.

## Addendum ƕDžĬDžȚ

### BUFFALOPOX ƨNjDžƑШǁƐ ăƥơШ

ƁøƑDZ âşƘƺ ƯĿ ȷÅÊȹƣǟş (*Bubalus Bubalis*) ƯəÅţă âƺƞÅƨă ÆĿÔǩ ǴĀøÆDZ Ǵèş Ƙƺ ÄÔƞ Ž ôÄţă ǫÆʒ ·Èęƺöă âşƘƺ ǁÆDZ ǁƘǰõ ¢GÎǩ Ưøǫöăşǖ buffalopox virus âƺƞÅƨă Ɓåŭǩ Æęş ÛÄÖǴöă ƁøƑDZ ȸʒ ǴƤÅĀöă ÕŸǫö ǴöÅÎƞ ğÅȹăƺĿΣă ʔŸʒ ğÅƺɇă ·ÅĿÊĿȹşÆȹǖş ÆĀŢăş ţÄȒöă ʔŸʒ ğÅƺǗ ǁèƺƞÅDZ 650 ȸƞ %3.8 ʔÆö ȷÅõ ·ȯƺDzȞöă Ž ǈĿňş ôÄƞ ƂǗ ôÄƞ ğÅȹăƺĿΣă ǷØĿ ȸʒ ƙöşűÊţă ǴǫÊöă ƙăŸΣă ÆĀʒ ÄŢş ·ÆĀŢă Ž ǴĿÌÅƺ Ž ğÅŁĿŸΣăş ·ğÅƺɇă øƺŢş ŌǴę ǁĀÄÖǩ ƙƞƺĀ Ǩƞåă ǴĿöÅʒ ʔƥ ʒƞ ƙăŸΣă ğăÆĿÖȞö ¢ăÅÎƞ

ǗøШƐƥøDZǁƐ


Fenner, F.J., E. Poul, J. Gibbs *et al.* *Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.

Mitra, K., A. Chatterjee. "Milker's nodule" contracted from pox in water buffaloes. *Int J Zoonoses* 13:141–142, 1986.


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## ƕĭƺȒødžǁƐ NjƸdžǀǁƐ ¯ !ƥƽǁƐ ĂDžƟ

## CRIMEAN-CONGO HEMORRHAGIC FEVER

### ICD-10 A 98.0

·ƺ8ȹƺȮöă ʔƥ ÛǴĿƺÂøĀöă ʔÛèƺöă ÅĿèǗ ʔƥ ˙ğÅƺååÄţă

*ǴĿşƘĀöă Ǵèş ƘĀöă* ÈĀDZ ƂǗ ƯŁǫĀ ʒÛÖöă ƯǫŸǫ ƙÖă ƁşÅȹø âşƘƺ ˙ğÅĿǴǴÊöă ÄǪƞƺȹÅȹ 105 – 85 ÅĿÄÛę ǴĀşÄõ ğÅȹƺĀƘĀöă ·ǴĀşÅĿĀǴöă ğÅèşƘĀöă ǴŸĿÔƺ Û*Nairovirus* ƂǗ ǴĿəÅƺöă ǴĿğÅĀöă ȸƞ âşƘĀöă ăØĿ ƯŁǫĀ ·ǴÖǴÛöă ǯşåÄƞ ƯŁĦÌ 8Ÿȡ ÄŢş ÛǁǴĀÄÖǩ öăåş ǴĿƺÂøĀöă ÕÊƞşǖ ʔƥ Ōƞăƺʒ ʒƞ ÛăăÄÖöÅƺ ǴöƺÖÄţă ǴĿƺÂøĀöă ʔŁΣă ğÅèşƘƺ Ǵʒƺŀf ·øƺȹÅèÅĿõ ğÅăĀȡ

åÅƠƭă ȸƞ ǴĿƺĀƨă ǴÖÛĀţăş ÛȷÅÖŸǴöă ǴÖÛĀƞ Ž âşƘĀöă åÄĀǫèă ˙ŽăÄ8ƨă ţăƺǫöă

[illegible]

[illegible] 200 – 92 [illegible] 1944 [illegible] 1945 [illegible] 100 [illegible] 1963 [illegible] 44 [illegible] 1963 [illegible] 1953 [illegible] 18 [illegible] 104 [illegible] 1969 [illegible] 1963 [illegible] 323 [illegible] 1968 [illegible] %16 [illegible] 131 [illegible] %0.7 [illegible] 1965 – 1953 [illegible] 717 [illegible] 1972 – 1968 [illegible] 121 [illegible] %17 [illegible] (Hoogstraal, 1979) [illegible] %9 [illegible] (yen *et al.*, 1985) [illegible] %80 [illegible] 1965 [illegible] 135 [illegible] 16 [illegible] G [illegible] 99 [illegible] %36 [illegible] (Gonzalez *et al.*, 1990).

[illegible] (Fisher-Hoch *et al.*, 1992) [illegible] *Hyaomma maeginotum* complex [illegible]

[illegible] [M] [illegible] 21 [illegible] 5 [illegible] 70 [illegible]

[illegible] [M] [illegible] 11 [illegible] 5 [illegible] 49 [illegible] 7 [illegible] .55 [illegible]

[illegible] 960 [illegible] .(Burt *et al.*, 1993) [illegible] 7 – 3 [illegible] M [illegible] 5 – 3 [illegible] M [illegible] 14 [illegible] 1.219 [illegible] G .(Gonzalez *et al.*,1990) [illegible] %43 [illegible] %4.9 [illegible]

[illegible] 12 – 5 [illegible] 8 [illegible]

[illegible] asthenia [illegible] %30 [illegible] Swanepoel *et al.*,) [illegible] 31 [illegible] 11 [illegible]

[illegible] .(1987 [illegible]

[illegible] .(WHO, 1985) [illegible]

[illegible]

[illegible] .foothill biotopes (WHO 1985) [illegible] 9 [illegible] *Hyalomma* [illegible] *Dermacentor* [illegible] *Boophilus* [illegible] *Rhipicephalus* [illegible] hares [illegible] .(Hoogstraal, 1979) [illegible]

[illegible]

[illegible] rossicus [illegible] *Lepus europaeus – L. capensis* [illegible] *Erinaceus albiventris – Heniechinus auritus* , [illegible] Hoogstraal,) [illegible] .(1979

[illegible] episodes [illegible] flesh [illegible] .(Fisher-Hoch *et al.*, 1992)

[illegible] .(Hoogstraal, 1979) [illegible]

[illegible]

[illegible] (%0.5) 12 [illegible] 1.253 [illegible] (%1.2) 15 [illegible] (*Impalatum* [illegible]) [illegible] 2.049 [illegible] .(Gordon *et al.*, 1993) [illegible]

[illegible] Vero [illegible] CER [illegible] radial [illegible] reverse transcription [illegible] .(Donats *et al.*, 1982) [illegible] .(Burt, 1993) global [illegible] M [illegible]

[illegible] contagion [illegible]

## UøШЕþøDŽlЕ


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams and Wilkins; 1972.

Blackburn, N.K., L. Searle, P. Taylor. Viral haemorrhagic fever antibodies in Zimbabwe. *Trans R Soc Trop Med Hyg* 76:803–805, 1982.

Burt, F.J., R. Swanepoel, L.E. Braack. Enzyme-linked immunosorbent assays for the detection of antibody to Crimean-Congo haemorrhagic fever in the sera of livestock and wild vertebrates. *Epidemiol Infect* 111:547–557, 1993.

Burt, F.J., P.A. Leman, J.C. Abbott, R. Swanepoel. Serodiagnosis of Crimean-Congo haemorrhagic fever. *Epidemiol Infect* 113:551–562, 1994.

Casals, J. Antigenic similarity between the virus causing Crimean hemorrhagic fever and Congo virus. *Proc Soc Exp Biol Med* 131:233–236, 1969.

Casals, J., H. Hoogstraal, K.M. Johnson, A. Shelokov, N.H. Wiebenga, T.H. Work. A current appraisal of hemorrhagic fevers in the U.S.S.R. *Am J Trop Med Hyg* 15:751–764, 1966.

Casals, J., B.E. Henderson, H. Hoogstraal, K.M. Johnson, A. Shelokov. A review of Soviet viral hemorrhagic fevers, 1969. *J Infect Dis* 122:437–453, 1970.

Casals, J., G.H. Tignor. Neutralization and hemagglutination-inhibition tests with Crimean hemorrhagic fever-Congo virus. *Proc Soc Exp Biol Med* 145:960–966, 1974.

Donets, M.A., G.V. Rezapkin, A.P. Ivanov, E.A. Tkachenko. Immunosorbent assays for diagnosis of Crimean-Congo hemorrhagic fever (CCHF). *Am J Trop Med Hyg* 31:156–162, 1982.

Fisher-Hoch, S.P., J.B. McCormick, R. Swanepoel, A. Van Middlekoop, S. Harvey, H.G. Kustner. Risk of human infections with Crimean-Congo hemorrhagic fever virus in a South African rural community. *Am J Trop Med Hyg* 47:337–345, 1992.

Gonzalez, J.P., B. LeGuenno, M. Guillaud, M.L. Wilson. A fatal case of Crimean-Congo haemorrhagic fever in Mauritania: Virological and serological evidence suggesting epidemic transmission. *Trans R Soc Trop Med Hyg* 84:573–576, 1990.

Gordon, S.W., K.J. Linthicum, J.R. Moulton. Transmission of Crimean-Congo hemorrhagic fever virus in two species of *Hyalomma* ticks from infected adults to cofeeding immature forms. *Am J Trop Med Hyg* 48:576–580, 1993.

Hoogstraal, H. The epidemiology of tick-borne Crimean-Congo hemorrhagic fever in Asia, Europe and Africa. *J Med Entomol* 15:307–417, 1979.

Papa, A., B. Bozovi, V. Pavlidou, E. Papadimitriou, M. Pelemis, A. Antoniadis. Genetic detection and isolation of Crimean-Congo hemorrhagic fever virus, Kosovo, Yugoslavia. *Emerg Infec Dis* 8:852–854, 2002.

Saijo, M., T. Qin, M. Niikura, A. Maeda, T. Ikegami, T. Prehaud, *et al.* Recombinant nucleoprotein-based enzyme-linked immunosorbent assay for detection of immunoglobulin G antibodies to Crimean-Congo hemorrhagic fever virus. *J Clin Microbiol* 5:1587–1591, 2002a.

Saijo, M., T. Qin, M. Niikura., A Maeda, T. Ikegami, K. Sakai, *et al.* Immunofluorescence technique using HeLa cells expressing recombinant nucleoprotein for detection of immunoglobulin G antibodies to Crimean-Congo hemorrhagic fever virus. *J Clin Microbiol* 2:372–375, 2002b.

Saluzzo, J.F., P. Aubry, J. McCormick, J.P. Digoutte. Haemorrhagic fever caused by Crimean-Congo haemorrhagic fever in Mauritania. *Trans R Soc Trop Med Hyg* 79:268, 1985.

Sureau, P., J.N. Klein, J. Casals *et al.* Isolement des virus Thogoto, Wad Madani, Wanowrie et de la fièvre hemorrhagique de Crimée-congo en Iran à partir de tiques d'animaux domestiques. *Ann Virol (Inst Pasteur)* 131E:185–200, 1980.

Swanepoel, R., J.K. Struthers, A.J. Shepherd, G.M. McGillivray, M.J. Nel, P.G. Jupp. Crimean-Congo hemorrhagic fever in South Africa. *Am J Trop Med Hyg* 32:1407–1415, 1983.

Swanepoel, R., A.J. Shepherd, P.A. Leman, *et al.* Epidemiologic and clinical features of Crimean-Congo hemorrhagic fever in Southern Africa. *Am J Trop Med Hyg* 36:120–123, 1987.

Tantawi, H.H., M.I. Al-Moslih, N.Y. Al-Janabi, *et al.* Crimean-Congo haemorrhagic fever virus in Iraq: isolation, identification and electron microscopy. *Acta Virol* 24:464–467, 1980.

World Health Organization (WHO). *Viral Haemorrhagic Fevers. Report of a WHO Expert Committee.* Geneva: WHO; 1985. (Technical Report Series 721).

Yen, Y.C., L.X. Kong, L. Lee, *et al.* Characteristics of Crimean-Congo hemorrhagic fever virus (Xinjiang strain) in China. *Am J Trop Med Hyg* 34:1179–1182, 1985.

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## DENGUE pďœƣǁɛ

**ǦĿʐÂøÀöä ÕφÆöä ʔƥ A91 Ů(ăœǐǂȿǁɛ pďœƣǁɛ) pďœƣǁɛ ǍĎžθ :ICD-10 A90**

**ICD-10 A90 Dengue fever (classical dengue); A91 Dengue hemorrhagic fever**

*Flavivirus* ǥÀÀÔţä Ǵèş̧ƘÀöä ÈÀǵ ȸɳ ƙŎä ɃşÀφø âşƘʐ ÕφÆöä âşƘʐ :ğÀĿǤĜÊöä ǥÀÀÔţä ğÀèşƘÀöä ǦŸĿÔʐ Û(ĬŎäÀè ğÀĿŸÔÀţÀä ǦöʐŎÀţä ğÀèşƘÀöä ȸɳ ā Ǧʒʐɫ Ŏä) ÛǥÆÀÆɳş Ǧɳ̧ÀǨ ŎǫÀɫţä Ǜ̀ɫÀöä Æȓ Ǧʒ̀Àţä .(4 – 1) ǦĿŸÔɳ ȓÀÿ ǦȞäø ğÂĿɳ .Flaviviridae .ôʐȞǦöÀä âşƘÀöä ŎŎǫÀÀ .Æɳɉä ǥƘÔęş ǦĿəÂDZ ǥÀÀ8ţä ȓÀÿɉä Æȓ ȸÒö

ɄøǦÀøÀÒöä ŨÀÀÂĿφşÀÒĿɳş ÀÂÂĿÆĿöʐä ŨÀĿŎÀÀʐŬ ȧÀ̀ì ş ā Àȡ ŨǦÀøäÆţä ÀĿèŬ :ŽäÀ8ƨä ț äʐǪöä *Aedes aegypti* ǦÀÀÔţä ǦDzʒäÀöä ôʐȞä .ÀĿöäÀǪèŬ ŨǦĿäʐÀƨä ÀÒÀÀɳŬ ÆŸȡŬ ŨʔŨèʐöä ÀÒÀÀɳŬ Ž ȷȼä ʔøǪǵ ǦʐÀȞǪÊţä ǥÆĿǵʐöä ɄĿş ŨǦȞäøɉä ǦŸĿÔţä ȓÀÿǭö ɄÊĿəÀöä ŎęÀöä ɄĿ ÆĿǵʐöä ŎęÀöä *Aedes albopictus* ȐĿɉÀä ǦŬŎÀţä ǦDzʒäÀöä ȷʐŎǨ Æę .ÀĿöäÀǪèŬş ƙǪĿÒÀÀɳɉä ŎÀäÄĦöä ƂŬ ĬȓÀʒ ôʐȞǦöä ǤØĿ ǨŸṅäŬ .ÀĿèŬ ȧÀì āʐĎDZ ȸɳ ŏäĎDZɉä ȐȞä Ž ǦDzʒäÀöäş ȐĿɉÀä ǦŬŎÀţä ǦDzʒäÀöä .ŎĿÊÒţş (ǦÀɍş 16) ǥÆĦÜǪţä ğÀɍʐöäş (ğÀɍş 4) Ž ÈĿö ȸÒö ŨÀÀĿĿöÀɳ ȸɳ ǦĿÀÀÀöäş ǦÀÀȐƩä ĘüÀÀţä Ž âşƘÀŸö ǦĿÊĿəÀöä ŎęʐÀöä ɄĿ ǦÀÀÔţä ÈĿφÀÊÀöäş ȷÀÊφǫä ʔŸʒ ʔØ8ǪÀ ɄøǪöä *niveus* ǦĿDzĬŸöä ǦDzʒäÀöä ȷŬ ÆŎǪȞÀ .ǦŎĿɫȞöä ȯÀȡåɉä

.(1989) [illegible]

[illegible] (1963) [illegible]

[illegible] DEN-2 [illegible] (1969) [illegible] DEN-3

[illegible] DEN-1 [illegible] (1977) [illegible]

[illegible] 60 [illegible]

[illegible] DEN-4 [illegible] (1981) [illegible] (Figueroa *et al.*, 1982) [illegible]

PAHO,) [illegible]

[illegible] .(1982

[illegible] 1982 [illegible] 1981 [illegible] 1983 [illegible]

[illegible] 50 [illegible]

[illegible] .(PAHO, 1984) [illegible]

[illegible] 1986 [illegible] DEN-1

[illegible] DEN-1 [illegible]

.(PAHO, 1993) (1993) [illegible] (1988) [illegible] (1987)

[illegible] 134.000 [illegible]

[illegible] 1980 – 1987 [illegible]

.(Figuroa *et al.*, 1982) [illegible]

[illegible]

[illegible]

[illegible] 1916 [illegible] %45 [illegible]

[illegible] DEN-2 [illegible]

[illegible] .(Fagbami *et al.*, 1977) [illegible]

[illegible]

[illegible] *niveus* [illegible] WHO,) [illegible] (Varma, 1989) [illegible] 600 [illegible] %26.8 [illegible] (1985 [illegible] (Rudnick, 1966a) [illegible] %8 Monath *et al*., 1974;) [illegible] (Fagbami *et al*., 1977.

[illegible] 8 – 5 [illegible] retroocular [illegible] 7 – 5 [illegible] Benenson, 1990; Tesh,) [illegible] (1982.

[illegible] 12 [illegible]

1981

344.203

9.203 1981

159 1.109

DEN-2

((Kourí *et al.*, 1983; Cuzmán *et al.*, 1984)

1983

1992 – 1981

Aruba

.(PAHO, 1993)

expander

.(Benenson, 1990)

[illegible] 6 – 5 [illegible] 10 [illegible] *albopictus* [illegible] *scutellaris* [illegible]

[illegible] (WHO, 1985) [illegible] 2 [illegible] 1 [illegible] *niveus* [illegible]

DEN-2

(Varma, 1989)

*Scutellaris*

G

M

[illegible] (PAHO, 1991).

[illegible]

Benenson, A.S., ed. *Control of Communicable Diseases in Man*. 15th ed. An offical report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Fagbami, A.H., T.P. Monath, A. Fabiyi. Dengue virus infections in Nigeria: A survey for antibodies in monkeys and humans. *Trans R Soc Trop Med Hyg* 71:60–65, 1977.

Figueroa, M., R. Pereira, H. Gutiérrez, C. de Mejía, N. Padilla. Dengue epidemic in Honduras, 1978–1980. *Bull Pan Am Health Organ* 16:130–137, 1982.

Guzmán, M.G., G. Kourí, L. Morier, M. Soler, A. Fernández. A study of fatal hemorrhagic dengue cases in Cuba, 1981. *Bull Pan Am Health Organ* 18:213–220, 1984.

Halstead, S.B. Dengue. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Kourí, G., P. Más, M.G. Guzmán, M. Soler, A. Goyenechea, L. Morier. Dengue hemorrhagic fever in Cuba, 1981: Rapid diagnosis of the etiologic agent. *Bull Pan Am Health Organ* 17:126–132, 1983.

Monath, T.P., V.H. Lee, D.C. Wilson, A. Fagbami, O. Tomori. Arbovirus studies in Nupeko forest, a possible natural focus of yellow fever virus in Nigeria. I. Description of the area and serological survey of humans and other vertebrate hosts. *Trans R Soc Trop Med Hyg* 68:30–38, 1974.

Pan American Health Organization (PAHO). Dengue 4 in the Americas. *Epidemiol Bull* 3:7, 1982.

Pan American Health Organization (PAHO). Dengue in the Americas, 1983. *Epidemiol Bull* 5:1–3, 1984.

Pan American Health Organization (PAHO). Reunión sobre Guías para la Prevención y Control del Dengue y del Dengue Hemorrágico en las Américas. Washington, D.C., 16–20 December, 1991.

Pan American Health Organization (PAHO). Dengue in the Americas. An update. *Epidemiol Bull* 14(4):1–3, 1993.

Rudnick, A. Studies of the ecology of dengue in Malaysia. *Bull World Health Organ* 35:78–79, 1966a.

Rudnick, A. Dengue viruses isolated from mosquitoes in Singapore, 1960–1961. The transmission of dengue. *Bull World Health Organ* 35:63, 1966b.

Rudnick, A. The ecology of the dengue virus complex in Peninsular Malaysia. *In*: Pang, T., R. Pathmanathan, eds. *Proceedings of the International Congress on Dengue/Dengue Haemorrhagic Fever*. Kuala Lumpur: University of Malaya; 1983:7–14.

Tesh, R.B. Dengue. *In*: Wyngaarden, J.B., L.H. Smith, eds. Vol. 2: *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Summary Report Meeting of Consultants and Local and State Health Department Personnel on* Aedes albopictus *infestation, Harris County, Texas, March 12–14, 1986*. Atlanta: CDC; 1986.

Varma, M.G.R. Dengue and dengue hemorrhagic fever (DHF) (Dengue shock syndrome, DSS, Break-bone fever). *In*: World Health Organization, Vector Biology and Control Division. *Geographical Distribution of Arthropod-Borne Diseases and Their Principal Vectors*. Geneva: WHO; 1989. (WHO/VBC/89.67).

World Health Organization (WHO). *Viral Haemorrhagic Fevers. Report of a WHO Expert Committee*. Geneva: WHO; 1985. (Technical Report Series 721).

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## ƑŀďǰlƑƨǈƥĭȥ ĎžƳ ħĎžƜƑďǁƐ ƒƐƥĎžǕƐ
## DISEASES CAUSED BY HANTAVIRUSES

### ƒƑǈŀǁƐ ICD-10 J12.8 ǕħǐǈǂlħĎžŖǘŀĎž ŪĎž ħĭȥŖøďǁƐ ǍĎžϴǁƐ ICD-10A 98.5

### ƥȸƆ Ǐƨǈƥĭȥăǈǝƥ
### ICD-10 A98.6 Hemorrhagic fever with renal syndrome; ICD-10 J12.8 Other viral peneumonia

*ɂȶΣä ·ÁƵ ÁǬȽ ğÁèşҞȥ ôäÄŋǰ Ǜý ·ƁÁȞöä ǒÁĎžǿ Ǒõ Ž ǦÁÏǻ ǺȓäÄŋǰ ÁǬȽ ğÁèşҞȥ ǼǤÊǩ ǦŋäŸǬŋ) ÁǬȽ âşҞȥ ȸȝ ǦƤÁöä ǦÁȥəÄöä ǦŋäŸǬţäş ǗĈǼŐöä ƁÁȞöä ôÄŋ ǗǦÁȥŸõ ǦŋäŸǬŋ ȝŋ ǦĿȥÂøÁöä ·ǼÁǼƨä ƁÁȞöä ôÄŋ ǗǦÁȥəÄöä ÁǬȽ âşҞȥ*

ǦƏÀǽȥöä ɂȶΣä ǕǦĿȥÂøÁöä ȷÀŎŸǦöä ɂƥ ·ǦÁȥŸõ ǦŋäŸǬŋ ȝŋ ǦĿȥÂøÁöä ɂȶΣä ·ğÁȥââÀţä ǕǦĿȥÂøÁöä ǦĿèşÀöä ɂȶΣä ǕǦĿȥÂøÁöä ǦÁøȥǑöä ɂȶΣä ǕHantaan ȷÁǬȽ âşҞȥ ŏäá ǕǦĿȥÂøÁöä ȥŎȥè ɂƥ (epidemic nephropathy, nephropathia epidemica) ɄəÀǽȥöä ǦĿŸǑöä òŸǬȝä

[illegible]

[illegible] *Hantavirus* [illegible] 100 – 90 [illegible] *Bunyaviridae* [illegible] 3 [illegible] bilayered [illegible] helicoidal nucleocapsids [illegible] S [illegible] M [illegible] L [illegible] 3 [illegible] glycoproteins [illegible] (1 [illegible]) [illegible] prototype [illegible] (1) [illegible]

[illegible] (1 [illegible]) [illegible]

[illegible] 1950 [illegible] 30.00 [illegible] 1953 [illegible] %33 [illegible] %8 – %6 [illegible] (Traub and Wisseman, 1978).

[illegible] (Schmaljohn and Hjelle, 1997 [illegible] Lee, 1996) [illegible] 1992 – 1978 [illegible] 2.706 [illegible] %15 [illegible] %10 [illegible]

[illegible] 63 [illegible] 300000 [illegible] 13 [illegible] 45 [illegible]

[illegible] 200.000 – 150.000 [illegible] .(Schmaljohn and Hjelle, 1997 [illegible] Lee, 1996) [illegible] 13 [illegible] 0.03 [illegible] 18 [illegible] 90.936 [illegible] .(Cohen, 1982) [illegible] 100.000 [illegible] .%7 [illegible] 1985 [illegible] 103.778 [illegible] 1984 [illegible] .1972 [illegible] 1960 [illegible] 100 [illegible] 1976 [illegible] .(Sugiyama *et al.*, 1984) [illegible] 100 [illegible] .(Umenai *et al.*, 1981) [illegible] (*Apodemus speciosus* [illegible]) [illegible] 2.791 [illegible] .(Umenai *et al.*, 1981) (*Microtus montebelli* [illegible] %73.4 [illegible] *Rattus nervegicus* [illegible] %15.2 [illegible] 6 [illegible] .(Arikawa *et al.*, 1994) [illegible] – 1978 [illegible] 65.906 [illegible] 1992 [illegible] puumala [illegible] .%2 [illegible] %1 [illegible] 88 [illegible] 9 [illegible] 33 [illegible] .1990 [illegible] 1992 [illegible] .(Clement *et al.*, 1994) [illegible] %80 [illegible] .1993

[illegible] [1] [illegible]

| [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|
| [illegible] | [illegible] *Apodemus agrarius* | [illegible] | [illegible] |
| [illegible] | [illegible] *A. flavicollis* [illegible] *Apodemus agrarius* | [illegible] | [illegible] |
| [illegible] | [illegible] *Rattus norvegicus* | [illegible] | [illegible] |
| [illegible] | [illegible] *Clethrionomys glareolus* | [illegible] | [illegible] |
| [illegible] | [illegible] *Peromyscus maniculatus* | [illegible] | [illegible] |
| [illegible] | [illegible] *Peromyscus* [illegible] *leucopus* | [illegible] | [illegible] |
| [illegible] | (*sigmodon hispidus*) [illegible] | [illegible] | [illegible] |
| [illegible] | (*Oryzomys palutris*) [illegible] | [illegible] | [1] [illegible] |
| [illegible] | [3] [illegible] *Oligoryzmys longicaudatus* | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | *Oligoryzmys chacoensis* | [illegible] | [illegible] |
| [illegible] | *Oligoryzmys fulvescens* | [illegible] | [illegible] |
| [illegible] | *Oligoryzmys flavescens* | [illegible] | [illegible] |

| | | | |
|---|---|---|---|
| [illegible] | Calomys [illegible] laucha | [illegible] | [illegible] |
| [illegible] | [3] [illegible] Oligoryzmys longicaudatus | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | HU39694 |
| [illegible] | Calomys [illegible] laucha | [illegible] | [2, 1] [illegible] |

1. [illegible]
2. [illegible]
3. [illegible]

*Source:* Adapted from Schmaljohn, C., B. Hjelle. Hantaviruses: A global disease problem. *Emerg Infect Dis* 3(2):95–104, 1997. [Table 1].

Galeno H., J. Mora, E. Villagra, J. Fernandez, J. Hernandez, G.J. Mertz, *et al.* First human isolate of Hantavirus (Andes virus) in the Americas. *Emerg Infect Dis* 8(7):657–661, 2002.

Mendes W.S., N.J. Aragao, H.J. Santos, L. Raposo, P.F. Vasconelos, E.S. Rosa, *et al.* Hantavirus pulmonary syndrome in Anajatuba, Maranhao, Brazil. *Rev Inst Med Trop Sao Paulo* 43(4):237–240, 2001.

Milazzo, M.L., E.J. Eyzaguirre, C.P. Molina, C.F. Fulhorst. Maporal viral infection in the Syrian golden hamster: A model of hantavirus pulmonary syndrome. *J Infect Dis* 186(10):1390–1395, 2002.

Nemirov K., O. Vapalahti, A. Lundkvist, V. Vasilenko, I. Golovljova, A. Plyusnina, *et al.* Isolation and characterization of Dobrava hantavirus carried by the striped field mouse (*Apodemus agrarius*) in Estonia. *J Gen Virol* 80(Pt 2):371–379, 1999.

Padula, P., M.G. Della Valle, M.G. Alai, P. Cortada, M. Villagra, A. Gianella. Andes virus and first case report of Bermejo virus causing fatal pulmonary syndrome. *Emerg Infect Dis* 8(4):437–439, 2002.

Powers, A.M., D.R. Mercer, D.M. Watts, H. Guzman, C.F. Fulhorst, V.L. Popov, *et al.* Isolation and genetic characterization of a hantavirus (Buyaviridae: Hantavirus) from a rodent, *Oligoryzomys microtis* (Muridae), collected in northeastern Peru. *Am J Trop Med Hyg* 61(1):92–98, 1999.

Schutt M., P. Gerke, H. Meisel, R. Ulrich, D.H. Kruger. Clinical characterization of Dobrava hantavirus infections in Germany. *Clin Nephrol* 55(5):371–374, 2001.

Sibold, C., R. Ulrich, M. Labuda, A. Lundkvist, H. Martens, M. Schutt, *et al.* Dobrava hantavirus causes hemorrhagic fever with renal syndrome in central Europe and is carried by two different *Apodemus* mice species. *J Med Virol* 63(2):158–167, 2001.

Vincent, M.J., E. Quiroz, G. Gracia, A.J. Sanchez, T.G. Ksiazek, P.T. Kitsutani, *et al.* Hantavirus pulmonary syndrome in Panama: Identification of novel hantaviruses and their likely reservoirs. *Virology* 277(1):14–19, 2000.

Yahnke, C.J., P.L. Meserve, T.G. Ksiazek, J.N. Mills. Patterns of infection with Laguna Negra virus in wild populations of Calomys laucha in the central Paraguayan chaco. *Am J Trop Med Hyg* 65(6):768–776, 2001.

*C. glareolus* [illegible] 210 [illegible] 44 [illegible] (Verhagen *et al.*, 1986) [illegible] 1.000 [illegible] 0.777 [illegible] 2.858 [illegible] %40 [illegible] 39 – 20 [illegible] 41 [illegible] (Niklasson *et al.*, 1987) [illegible] 60 [illegible] %15 [illegible] 176 [illegible] *C. glareolus* [illegible] 22 [illegible] 181 [illegible] .(Niklasson and Le Duc, 1987)

[illegible] Hantaan [illegible] Dobrava – Belgrade [illegible] *A. flavicollis* [illegible] Avsic – zupance) [illegible] %20 [illegible] *A. agravius* [illegible] .(*et al.*, 1992; Taller *et al.*, 1993 [illegible] (Sibold *et al.*, 2000) [illegible] .(Nemirov *et al.*, 1999) [illegible]

[illegible] Seoul [illegible] 1993 [illegible] .(Childs *et al.*, 1985) [illegible]

[illegible] 8.080 [illegible] %1.46 [illegible] %0.25 [illegible] %2.76 [illegible] %6.5 [illegible] Glass *et al.,*) [illegible] .(1993

[illegible] 1993 [illegible] "mystery [illegible] Sin nombre [illegible] (*peromyscus maniculatus* [illegible]) [illegible] .(CDC, 1994) [illegible] %30.4 [illegible] .(CDC, 2000a) [illegible] Retrospective [illegible] Black Creek [illegible] Bayou [illegible] 2003 [illegible] 15 [illegible] .(CDC, 2000a) [illegible] %38 [illegible] 333 [illegible] %39 [illegible] %61 [illegible] 37 [illegible] 75 [illegible] 10 [illegible] 31 [illegible] .(CDC, 2003) [illegible]

[illegible] 1994 [illegible]

[illegible] 32 [illegible] 1999 [illegible] 31 [illegible] 1989 Health Canada,) [illegible] (%38) 12 [illegible] .(2000

[illegible] 12 [illegible] 2000 – 1999 [illegible] :2001 [illegible] (Vincent *et al.*, 2000) choclo [illegible] .(PAHO, 2002) [illegible] 29 [illegible] .(CDC, 2000b) [illegible] .(Groen *et al.*, 2002) [illegible]

[illegible] 2001 – 1993 [illegible] (2) [illegible]

[illegible] :2 [illegible] .2001 – 1993

| [illegible] | 2001 | 2000 | 1999 | 1998 | 1997 | 1996 | 1995 | 1994 | 1993 | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|
| 310 | 74 | 52 | 76 | 61 | 47 | – | – | – | – | [illegible] |
| 11 | 5 | 3 | 1 | 1 | 1 | – | – | – | – | [illegible] |
| 167 | 69 | 54 | 26 | 11 | – | 3 | 1 | – | 3 | [illegible] |
| 204 | 78 | 31 | 26 | 35 | 30 | 3 | 1 | – | – | [illegible] |
| 91 | 27 | 15 | 4 | 5 | 4 | 5 | 15 | 16 | – | [illegible] |
| 27 | 4 | 6 | 12 | 3 | 2 | – | – | – | – | [illegible] |

.PAHO [illegible]

%12.5 1987 4 3 (*Calomys musculinus*) 17 4 %22.5 31 (Weissenbacher *et al.*, 1990).

30 %31 %16.5 1985 4 10 305 (González *et al.*, 1988) %2 1.762 (Nakounne *et al.*, 2000) 1989 (315/28) %9 4 (Corwin *et al.*, 1992).

3 3 – 2

ȸȝ ĞƤÅÃöã ĞÃζǝÀöã ĞƞãƳǪŧŸöş ÛĞÃζŸõ ĞƞãƳǪƞ ȝƞ ĞŁζÂøÃöã ʔŧĦŸö ĝÂŁţã ĞÃÃÂÊöã ğãÂŁţã :3 ȯşÉɜã
·ÅÓÃŁ âşƘζ

| ô Ãţã | Ȑ ÃøÅŧţã | gÂŁţã ğãÂŁţã |
|---|---|---|
| ĞƞãƳǪƞ ȝƞ ĞŁζÂøÃöã ʔŧΣã ȯÉĦƞ (Ğŧŀǹş – ĞöÉǪĦƞ) ĞÃζŸõ %15 – %1 ğÅŁζζöã | ɉÅÃÓÃŁ ȯζè ấãÃ8Ÿæ -ÅζãÃæşấ | +++ 8ÂøÃöã<br>++++/+++ ĞŁÃŁǩşÃæ ĞŸŁæ/ĞŁŧŁǩşàǿã<br>++/+ ɃζǝǿɃƘĤì ãÃÊǩ<br>+++/+ ğƳȒĤöã ãÅƬǪöã<br>++++/++ ĞŧĦǪŸƞ ɉÅÕǪğã<br>++++/++ myopia ÃÔĞöã ÃÊğ/ɄøÃŁȝ ɃÜ |
| ĞƞãƳǪƞ ȝƞ ĞŁζÂøÃöã ʔŧΣã ğÅŁζζöã ȯÉĦƞ (ĞÃŁÃǹ) ĞÃζŸõ %1 > | ɼÃƞζæ | + 8ÂøÃöã<br>++++/+ ĞŁÃŁǩşÃæ ĞŸŁæ/ĞŁŧŁǩşàÜ<br>+/- ɃζǝǿɃƘĤì ãÃÊǩ<br>+ ğƳȒĤöã ãÅƬǪöã<br>+ ĞŧĦǪŸţã ɉÅÕǪğã<br>++++/++ ÃÔĞöã ÃÊğ/ɄøÃŁȝ ɃÜ |
| ȸȝ ĞƤÅÃöã ĞÃζǝÀöã ĞƞãƳǪţã (ɄǝÉĞöã ÙŧÃöã) ÅÓÃŁ âşƘζ %40 < ğÅŁζζöã ȯÉĦƞ | ƎƴƘè õǿζÃζŁǫ | + 8ÂøÃöã<br>+ ĞŁÃŁǩşÃæ ĞŸŁæ/ĞŁŧŁǩşàǿã<br>++++ ɃζǝǿɃƘĤì ãÃÊǩ<br>- ğƳȒĤöã ãÅƬǪöã<br>+/- ĞŧĦǪŸƞ ɉÅÕǪğã<br>- myopia ÃÔĞöã ÃÊğ/ɄøÃŁȝ ɃÜ |
| ȸȝ ĞƤÅÃöã ĞÃζǝÀöã ĞƞãƳǪţã (ɃζŸÒöã ãÃȒöã) ÅÓÃŁ âşƘζ %40 < ğÅŁζζöã ȯÉĦƞ | ζÅÃæ ÕÃǻ õŸæ ĝÃę ÃÃÉǫÜ | + 8ÂøÃöã<br>+ ++/ ++ ĞŁÃŁǩşÃæ ĞŸŁæ/ĞŁŧŁǩşàǿã<br>+ +++/++ + ɃζǝǿɃƘĤì ãÃÊǩ<br>+++/++ ğƳȒĤöã ãÅƬǪöã<br>++/- ĞŧĦǪŸƞ ɉÅÕǪğã<br>- myopia ÃÔĞöã ÃÊğ/ɄøÃŁȝ ɃÜ |

Û++++ Û+++ Û++ ÛğÃǩãζǪƞ Ƙǫ şÜ ĞÃŁÃǹ ĝÃŁÅŢǩ + ÛÕǄÊǩ Åƞ ãǿãÃǫ - :ĝÂŁŧŧŸö ʔÔęɉã/ʔøǫãɉã ǫşÉΣã
·ãÃǩãζǩ ÃǯõÜş Ğŧŀǹş ĝÃŁÅŢǩ

Schmaljohn C. B Hjelle. Hantaviruses :A global disease problem. *Emerg Infect* :ǿÉÔţã
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# ÙøШϵþøDžllϵ

Arikawa, J., M. Ito, J.S. Yao, H. Kariwa, I. Takashima, N. Hashimoto. Epizootiological studies of hantavirus infection among urban rats in Hokkaido, Japan: Evidence for the persistent infection from the sero-epizootiological surveys and antigenic characterizations of hantavirus isolates. *J Vet Med Sci* 56:27–32, 1994.

Avsic-Zupanc, T., S.Y. Xiao, R. Stojanovic, A. Gligic, G. van der Groen, J.W. LeDuc. Characterization of Dobrava virus: A hantavirus from Slovenia, Yugoslavia. *J Med Virol* 38:132–137, 1992.

Brummer-Korvenkontio, M., A. Vaheri, T. Hovi, *et al.* Nephropathia epidemica: Detection of antigen in bank voles and serologic diagnosis of human infection. *J Infect Dis* 141:131–134, 1980.

Canada, Health Canada, Population and Public Health Branch. Hantavirus pulmonary syndrome in Canada, 1989–1999. *Canada Comm Dis Report* 26(8), 2000.

Casals, J., H. Hoogstraal, K.M. Johnson, A. Shelokov, N.H. Wiebenga, T.H. Work. A current appraisal of hemorrhagic fevers in the U.S.S.R. *Am J Trop Med Hyg* 15:751–764, 1966.

Casals, J., B.E. Henderson, H. Hoogstraal, K.M. Johnson, A. Shelokov. A review of Soviet viral hemorrhagic fevers, 1969. *J Infect Dis* 122:437–453, 1970.

Childs, J.E., G.W. Korch, G.A. Smith, A.D. Terry, J.W. Leduc. Geographical distribution and age related prevalence of antibody to Hantaan-like virus in rat populations of Baltimore, Maryland, USA. *Am J Trop Med Hyg* 34:385–387, 1985.

Childs, J.E., G.E. Glass, G.W. Korch, *et al.* Evidence of human infection with a rat-associated hantavirus in Baltimore, Maryland. *Am J Epidem* 127:875–878, 1988.

Clement, J., P. McKenna, P. Colson, *et al.* Hantavirus epidemic in Europe, 1993. *Lancet* 343:114, 1994.

Cohen, M.S. Epidemic hemorrhagic fever revisited. *Rev Infect Dis* 4:992–995, 1982.

Corwin, A., M. Habib, J. Olson, D. Scott, T. Ksiazek, D.M. Watts. The prevalence of arboviral, rickettsial, and Hantaan-like antibody among schoolchildren in the Nile River delta of Egypt. *Trans R Soc Trop Med Hyg* 86(6):667–679, 1992.

Dournon, E., B. Moriniere, S. Matheron, P. Girard, J. Gonzalez, F. Hirsch, *et al.* HFRS after a wild rodent bite in the hautesavoie—and risk of exposure to Hantaan-like virus in Paris laboratory. *Lancet* 1:676–677, 1984. Cited in: Schmaljohn, C., B. Hjelle. Hantaviruses: A global disease problem. *Emerg Infect Dis* 3(2):95–104, 1997.

Gavrilovskaya, I.N., N.S. Apekina, Y.A. Myasnikov, *et al.* Features of circulation of hemorrhagic fever with renal syndrome (HFRS) virus among small mammals in the European U.S.S.R. *Arch Virol* 75:313–316, 1983.

Glass, G.E., A.J. Watson, J.W. LeDuc, G.D. Kelen, T.C. Quinn, J.E. Childs. Infection with ratborne hantavirus in US residents is consistently associated with hypertensive renal disease. *J Infect Dis* 167:614–620, 1993.

Gonzalez, J.P., C.C. Mathiot, J.C. Bouquety, *et al.* Status of hantavirus in the Central African Republic. *Ann Inst Pasteur Virol* 139:301–304, 1988.

Groen J., P. Koraka, C.N. Edwards, S.L. Branch, K.O. Douglas, A.D. Osterhaus, P.N. Levett. Serological evidence of hantavirus in humans and rodents in Barbados. *J Infect* 45(2):109–110, 2002.

Hung, T., S.M. Xia, T.X. Zhao, *et al.* Morphological evidence for identifying the viruses of hemorrhagic fever with renal syndrome as candidate members of the Bunyaviridae family. Brief report. *Arch Virol* 78:137–144, 1983.

Kohn, D.F., S.W. Barthold. Biology and diseases of rats. *In:* Fox, J.G., B.J. Cohen, F.M. Loew, eds. *Laboratory Animal Medicine*. Orlando: Academic Press; 1984.

LeDuc, J.W. Epidemiology of Hantaan and related viruses. *Lab Anim Sci* 37:413–418, 1987.

Lee, H.W., P.W. Lee, K.M. Johnson. Isolation of the etiologic agent of Korean hemorrhagic fever. *J Infect Dis* 137:298–308, 1978.

Lee, H.W., G.R. French, P.W. Lee, L.J. Baek, K. Tsuchiya, R.S. Foulke. Observations on natural and laboratory infection of rodents with the etiologic agent of Korean hemorrhagic fever. *Am J Trop Med Hyg* 30:477–482, 1981.

Lee, H.W., G. van der Groen. Hemorrhagic fever with renal syndrome. *Prog Med Virol* 36:62–102, 1989.

Leirs, H., R. Verhagen, A. Lefevre. L'hantavirose une anthropozoonose mal connue. *Ann Med Vet* 133:653–662, 1989.

Lee, H.W. Epidemiology and pathogenesis of hemorrhagic fever with renal syndrome. *In:* Elliott, R.M., ed. *The Bunyaviridae*. New York: Plenum Press; 1996. Cited in: Schmaljohn, C., B. Hjelle. Hantaviruses: A global disease problem. *Emerg Infect Dis* 3(2):95–104, 1997.

Maiztegui, J.I., J.L. Becker, J.W. LeDuc. Actividad de virus de la fiebre hemorrágica de Corea o virus muroide en ratas del puerto de la Ciudad de Buenos Aires. *In: 28.ª Reunión Científica Anual de la Sociedad Argentina de Investigación Clínica. Mar del Plata, 21–24 noviembre, 1983.*

Mills, J.N., A. Corneli, J.C. Young, L.E. Garrison, A.S. Khan, T.G. Ksiazek. Hantavirus pulmonary syndrome—United States: Updated recommendations for risk reduction. *MMWR Morb Mortal Wkly Rep* 51(RR09):1–12, 2002.

Nakounne, E., B. Selekon, J. Morvan. Microbiological surveillance: viral hemorrhagic fever in Central African Republic: current serological data in man. *Bull Soc Pathol Exot* 93(5):340–347, 2000.

Niklasson, B., J. LeDuc. Epidemiology of nephropathia epidemica in Sweden. *J Infect Dis* 155:269–276, 1987.

Niklasson, B., J. LeDuc, K. Nyström, L. Nyman. Nephropathia epidemica: incidence of clinical cases and antibody prevalence in an endemic area of Sweden. *Epidemiol Infect* 99:559–562, 1987.

Pan American Health Organization (PAHO). Importancia de las virosis transmitidas por artrópodos y roedores para la salud pública en las Américas. *Bol Epidemiol* 4(3):1–4, 1983.

Padula, P., A. Edelstein, S.D.L. Miguel, N.M. Lopez, C.M. Rossi, R.D. Rabinovich. Hantavirus pulmonary syndrome (HPS) outbreak in Argentina: Molecular evidence for person-to-person transmission of Andes virus. *Virology* 241:323–330, 1998.

Schmaljohn, C.S., S.E. Hasty, S.A. Harrison, J.M. Dalrymple. Characterization of Hantaan virions, the prototype virus of hemorrhagic fever with renal syndrome. *J Infect Dis* 148:1005–1012, 1983.

Schmaljohn, C., B. Hjelle. Hantaviruses: A global disease problem. *Emerg Infect Dis* 3(2):95–104, 1997.

Song, G., C.S. Hang, X.Z. Qui, *et al.* Etiologic studies of epidemic hemorrhagic fever (hemorrhagic fever with renal syndrome). *J Infect Dis* 147:654–659, 1983.

Sugiyama, K., Y. Matsuura, C. Morita, *et al.* An immune adherence assay for discrimination between etiologic agents of hemorrhagic fever with renal syndrome. *J Infect Dis* 149:67–73, 1984.

Taller, A.M., S.Y. Xiao, M.S. Godec, *et al.* Belgrade virus, a cause of hemorrhagic fever with renal syndrome in the Balkans, is closely related to Dobrava virus of field mice. *J Infect Dis* 168:750–753, 1993.

Tanishita, O., Y. Takahashi, Y. Okuno, *et al.* Persistent infection in rats with haemorrhagic fever with renal syndrome virus and their antibody responses. *J Gen Virol* 67:2819–2824, 1986.

Toro, J., J.D. Vega, A.S. Khan, J.N. Mills, P. Padula, W. Terry, *et al.* An outbreak of hantavirus pulmonary syndrome, Chile, 1997. *Emerg Infect Dis* 4(4):687–694, 1998.

Traub, R., C.L. Wisseman, Jr. Korean hemorrhagic fever. *J Infect Dis* 138:267–272, 1978.

Umenai, T., M. Watanabe, H. Sekino, *et al.* Korean hemorrhagic fever among rural residents in Japan. *J Infect Dis* 144:460–463, 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Hantavirus pulmonary syndrome: United States, 1993. *MMWR Morb Mortal Wkly Rep* 43:45–48, 1994.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Hantavirus pulmonary syndrome—Chile, 1997. *MMWR Morb Mortal Wkly Rep* 46(40):949–951, 1997.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). All about hantavirus: Ecology. 2000a. (Last reviewed 20 September 2000). www.cdc.gov/ncidod/diseases/hanta/hps/noframes/phys/ecology.htm (Accessed 24 January 2003)

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). All about hantavirus: Hantavirus in South and Central America. 2000b. (Last reviewed 15 December 2000). www.cdc.gov/ncidod/diseases/hanta/hps/noframes/argtina.htm (Accessed 24 January 2003)

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). All about hantavirus. Case information: Hantavirus pulmonary syndrome case count and descriptive statistics as of January 15, 2003. 2003. (Last reviewed 21 January 2003). www.cdc.gov/ncidod/diseases/hanta/hps/noframes/caseinfo.htm (Accessed 24 January 2003)

Vasyuta Yu, S. The epidemiology of hemorrhagic fever with renal syndrome in the RSFSR. *Zh Mikrobiol Epidemiol Immunobiol* 32:49–56, 1961.

Verhagen, R., H. Leirs, E. Tkachenko, G. van der Groen. Ecological and epidemiological data on hantavirus in bank vole populations in Belgium. *Arch Virol* 91:193–205, 1986.

Vincent, M.J., E. Quiroz, G. Gracia, A.J. Sanchez, T.G. Ksiazek, P.T. Kitsutani, *et al.* Hantavirus pulmonary syndrome in Panama: Identification of novel hantaviruses and their likely reservoirs. *Virology* 277(1):14–19, 2000.

Weissenbacher, M.C., M.S. Merani, V.L. Hodara, *et al.* Hantavirus infection in laboratory and wild rodents in Argentina. *Medicina (B Aires)* 50:43–46, 1990.

Wells, R.M., E.S. Sosa, Z.E. Yadon, D. Enria, P. Padula, N. Pini, *et al.* An unusual hantavirus outbreak in southern Argentina: Person-to-person transmission? *Emerg Infect Dis* 3(2):171–174, 1997.

World Health Organization (WHO). *Viral Haemorrhagic Fevers: Report of a WHO Expert Committee.* Geneva: WHO; 1985. (Technical Report Series No. 721).

World Health Organization. Haemorrhagic fever with renal syndrome. *Wkly Epidemiol Rec* 68:189–191, 1993.

Yamanouchi, T., K. Domae, K. Tanishita, *et al.* Experimental infection in newborn mice and rats by hemorrhagic fever with renal syndrome (HFRS) virus. *Microbiol Immunol* 28:1345–1353, 1984.

**EASTERN EQUINE ENCEPHALITIS**

**ICD-10 A 83.2**

encephalomyelitis

*Alphavirus* A 60 – 50 *Togaviridae* variants mapping (Weaver *et al.*, 1994) 1.000 6

.(Calisher *et al.*, 1990)

[illegible]

[illegible] enzootic [illegible]

[illegible] 1978 [illegible] 1955 [illegible] 136 [illegible] (CDC, 2002) 1997 – 1977 [illegible] 106 [illegible] 38 [illegible] 1938 [illegible] %30 [illegible] 5 [illegible] (CDC, 1990) [illegible] 1991 [illegible] 5 [illegible] *Culiseta melanura* [illegible] 1992 – 111 [illegible] 54) [illegible] 88 [illegible]

[illegible] *Aedes* [illegible] *Culex taeniopus* [illegible] *Sollicitans* [illegible]

[illegible] 100 [illegible] 1973 [illegible]
[illegible] 1.700 [illegible] 40 [illegible]
.(Dietz *et al.*, 1980) [illegible]

[illegible] 2 – 1 [illegible] 50 [illegible] 15 [illegible]
32 [illegible] .1949 – 1984 [illegible] 3 – 2 [illegible] 827 [illegible] 69 [illegible] 1959 [illegible] 1.600 [illegible] 32 [illegible] 16 [illegible]

[illegible] pheasant [illegible] 1971 [illegible] 1.551 [illegible] 670 [illegible] 1971 [illegible] .(Maness andCalisher, 1981) [illegible] 26.468 [illegible] 1970 [illegible] 1956 [illegible] 2.620 [illegible] 201 [illegible] 605 [illegible] 1947 [illegible] .(Dietz *et al.*, 1980) [illegible] 11.927 [illegible]

[illegible]

[illegible] 1915 – 1914 [illegible]

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[illegible] (Calisher *et al.*, 1981) [illegible] 1.000 [illegible] 34

[illegible] 1981 [illegible]

[illegible] %17 [illegible]

[illegible] 1: 2.9 [illegible] %61 [illegible]

[illegible] (Sabattini *et al.*, 1991) [illegible]

[illegible]

Kotait *et*) [illegible]

[illegible] (*al.*, 1992

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de Souza Lopez and) [illegible] sentinel [illegible]

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[illegible] 2 – 1 5 [illegible] 2.000 [illegible] 600 [illegible] .(Monath, 1991) [illegible]

[illegible] .(Monath, 1991) [illegible]

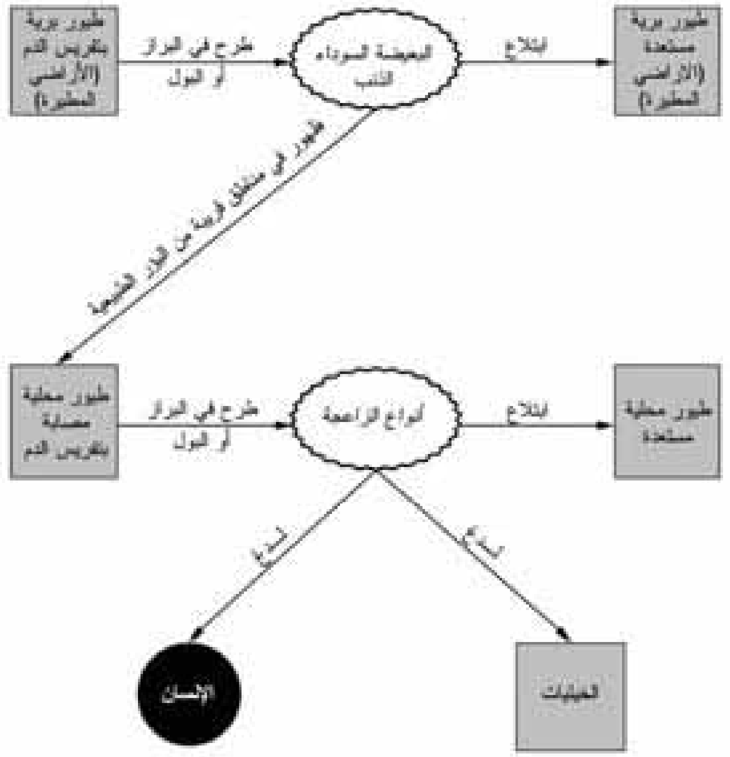
[illegible] 24 – 18 [illegible] 4 – 1 [illegible] 6 – 4 [illegible] 10 – 5 [illegible] .(Walton, 1981) [illegible] %90 [illegible] %75

[illegible] %75 [illegible] %50 [illegible] pheasants [illegible]

%40 (Wages *et al.*, 1993) emus %75 (*Dromaius novaehollondiae*) %87 (Tully *et al.*, 1992)

(13: (extrinsic (intrinsic (passeriform *Culiseta melanura* (Morris and Zimmerman 1981) *C. morsitans*

·ğÆĦϘţä ğÀŗʐöä Ž òÀÖϘŗä ĞÕŸǵ ¯ ŨęÀÎöä ŨŸĒ٦ä ȟÀŋÆöä āÀŢϘöä :13 ŐÒÎöä



ƙä ğÆÀÆDZ ĞÕŸǵ ÜÆĢǩ ÛȻõ ĞĒĦĢÛöä ǦϕʐüʐţÄ øüĢŸö ğøşÀƒ ĘüÀŋ Бǚ âşƘÀöä ÀÎϘÀ ÀŋÆÀʒ
Aedes ǦÌÄĦϘţä ǦDzʒäÂöä JǛ ÆÖϘȞÀ ·ŨÒÀŋǰä ŨÊŸüǰä ŐğÀè ʔŸʒ · ôʐȞĢöäş ĞĒŸǂä øʐĒÛöä
ȳá ʔŸʒ ʔØ8ϘǩşĞΣÀţä mardies ȳʐÁϘöä ʔŸʒ ʒəÀì ŐÒÎæ ÆDZʐǩ ĞȑʐȞæ ŨŁş Ûsollicitan
JÀÊϕqä ȸŋ Őõ ƙä ğÀĒÌÀÀöä Ž ŨÊĒəÀöä ŐęÀÀöä ŨŁ ¯ JÀÊϕqäş Ûğ ÀĒŸĒ٦äş øʐĒÛöä
ÌϘèʐìÀèÀŋ àÀì āʐÀDZ Ž ôʐȞĢöä ŏäØȡ øáÀÔŋ òʐǵ Ğèäøá Ũǵʐǩ ·ğÀĒŸĒ٦äş
ǦȒĦϘÊţäş A. vexans ǦȚĒ8ţä ǦDzʒäÂöäş ǦÀÆÀÒöä ǦDzʒäÀöä JǛ ğÆĦϘţä ğÀŗʐöÀæ
Nasci *et al*.,) JÀÊϕqäş ğÀĒŸĒÁŸö âşƘÀöä ŐęäʐϕJʐÒǩ Æę *Coquilletidia perturbans*
ȳÀʒ ŨęÀÎöä ŨŸĒ٦ä ȟÀŋÆöä āÀŢϘöä âşƘʐ ȸŋ ĞÀóæ 144 ğáÀÀϘèä ·äÆÀøʐŸʐ Ž ·(1981
ȸŋ JÀõ ·ğƘШ 96 ȸŋ *A. allopictus* ȒÆjÀæ ǦÛÖÀţä ǦDzʒäÂöä ȸŋ Ğȑʐȟæ 9.350 ȸŋ 1991

[illegible] %19 [illegible] %31 [illegible]
.(CDC, 1992) [illegible] %2
[illegible]

[illegible] *taeniopus* [illegible] *Culex nigrapalpus* [illegible] *Taeniorhynchus* [illegible] Walder *et al*.,) *C. dunni* [illegible] *C. panacoss* [illegible] .(1984 [illegible]

[illegible] *Didelphis* [illegible] 54 [illegible] %7.4 [illegible] 20: 1 [illegible] (*marsupialis*
.(Walder *et al*., 1984) [illegible]

[illegible]

[illegible] .(Calisher *et al*., 1981) [illegible]

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[illegible]

[illegible]

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[illegible] 6 – 4 – 3 [illegible] epizootic [illegible] (Dietz *et al.*, 1980) [illegible]

[illegible]

Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams and Wilkins; 1972.

Barber, T.L., T.E. Walton, K.J. Lewis. Efficacy of trivalent inactivated encephalomyelitis virus vaccine in horses. *Am J Vet Res* 39:621–625, 1978.

Berge, T.O., ed. *International Catalogue of Arboviruses*, 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75–8301).

Calisher, C.H., E. Levy-Koenig, C.J. Mitchell, F.A. Cabrera, L. Cuevas, J.E. Pearson. Eastern equine encephalitis in the Dominican Republic, 1978. *Bull Pan Am Health Org* 13(4):380–390, 1979.

Calisher, C.H., N. Karabatsos, J.P. Foster, M. Pallansch, J.T. Roehrig. Identification of an antigenic subtype of eastern equine encephalitis isolated from a human. *J Clin Microbiol* 28:373–374, 1990.

Casals, J., D.H. Clarke. Arboviruses: Group A. *In*: Horsfall, F.L., Jr., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Dietz, W.H., Jr., P. Galindo, K.M. Johnson. Eastern equine encephalomyelitis in Panama: The epidemiology of the 1973 epizootic. *Am J Trop Med Hyg* 29:133–140, 1980.

Downs, W.G. Arboviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Faddoul, G.P., G.W. Fellows. Clinical manifestations of eastern equine encephalomyelitis in pheasants. *Avian Dis* 9:530–535, 1965.

Kotait, I., Z.M. Peixoto, T.L. Coimbra *et al.* Isolamento e identificação do virus de encefalomielite equina, tipo leste, em equinos do Estado de São Paulo, Brasil. *Arq Inst Bio (São Paulo)* 59:37–41, 1992.

Maness, K.S., C.H. Calisher. Eastern equine encephalitis in the United States, 1971: Past and prologue. *Current Microbiol* 5:311–316, 1981.

Monath, T.P. Alphaviruses (eastern, western, and Venezuelan equine encephalitis). *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. Vol. 2: *Principles and Practice of Infectious Disease*, 3rd ed. New York: Churchill Livingstone, Inc.; 1991.

Morris, C.D., R.H. Zimmerman. Epizootiology of eastern equine encephalomyelitis virus in upstate New York. III. Population dynamics and vector potential of adult *Culiseta morsitans* (Diptera: Culicidae). *J Med Entomol* 18:313–316, 1981.

Nasci, R.S., J.D. Edman. Blood feeding patterns of *Culiseta melanura* (Diptera: Culicidae) and associated sylvan mosquitoes in southeastern Massachusetts eastern equine encephalitis foci. *J Med Entomol* 18:493–500, 1981.

Ordóñez, J.V., W.F. Scherer, R.W. Dickerman. Isolation of eastern encephalitis virus in Guatemala from sentinel hamsters exposed during 1968. *Bull Pan Am Health Org* 70:371–375, 1971.

Sabattini, M.S., J.F. Daffner, T.P. Monath, *et al.* Localized eastern equine encephalitis in Santiago del Estero Province, Argentina, without human infection. *Medicina (Buenos Aires)* 51:3–8, 1991.

de Souza Lopes, O., L. de Abreu Sacchetta. Epidemiological studies on eastern equine encephalitis virus in São Paulo, Brazil. *Rev Inst Med Trop São Paulo* 16:253–258, 1974.

Stamm, D.D. Arbovirus studies in birds in south Alabama, 1959–1960. *Am J Epidemiol* 87:127–137, 1968.

Theiler, M., W.G. Downs. *The Arthropod-Borne Viruses of Vertebrates: An Account of the Rockefeller Foundation Virus Program, 1951–1970.* New Haven: Yale University Press; 1973.

Tully, T.N., Jr., S.M. Shane, R.P. Poston, *et al.* Eastern equine encephalitis in a flock of emus (*Dromaius novaehollandiae*). *Avian Dis* 36:808–812, 1992.

United States, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Neurotropic Viral Diseases Surveillance. Annual Summary, 1972.* Atlanta: CDC; 1974. (DHEW Publ. CDC 75–8252).

United States, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral surveillance: United States, 1990. *MMWR Morb Mortal Wkly Rep* 39(35):594–598, 1990.

United States, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Eastern equine encephalitis virus associated with *Aedes albopictus*—Florida, 1991. *MMWR Morb Mort Wkly Rep* 41:115, 121, 1992.

United States, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Confirmed and probable EEE cases, human, United States, 1964–1997, by state. Accessed 13 December 2002 at www.cdc.gov/ncidod/dvbid/arbor/eee64_97.pdf

Venezuela. Ministerio de Sanidad y Asistencia Social. *Bol Epidemiol* Nº. 19, 1976.

Wages, D.P., M.D. Ficken, J.S. Guy, T.S. Cummings, S.R. Jennings. Egg-production drop in turkeys associated with alphaviruses: Eastern equine encephalitis virus and Highlands J virus. *Avian Dis* 37:1163–1166, 1993.

Walder, R., O.M. Suárez, C.H. Calisher. Arbovirus studies in the Guajira region of Venezuela: Activities of eastern equine encephalitis and Venezuelan equine encephalitis viruses during an interepizootic period. *Am J Trop Med Hyg* 33:669–707, 1984.

Walton, T.E. Venezuelan, eastern and western encephalomyelitis. *In*: Gibbs, E.P.J., ed. Vol. 2: *Virus Diseases of Food Animals.* New York: Academic Press; 1981.

Weaver, S.C., A. Hagenbaugh, L.A. Bellew, *et al.* Evolution of alphaviruses in the eastern equine encephalomyelitis complex. *J Virol* 68:158–169, 1994.

Work, T.H. Eastern equine encephalomyelitis. *In*: Beeson, P.B., W. McDermott, eds. *Cecil Textbook of Medicine*. 12th ed. Philadelphia: Saunders; 1967.

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# EBOLA DISEASE ŰǋǦĩǟ ƀƐꝗ

## ICD-10 A98.4 Ebola virus disease ŰǋǦĩǟ ƨ ǋƥĭȥ ƀƐꝗ ICD-10 A 98.4

ꞏǦĿȥÂøǍöä ǦĿŐǍÀȥɟä ʔȶΣä ǛǦĿȥÂøǍöä ꝼȥǴǕ ʔƥ ˙ğǍȥǻäÀʈä

[illegible] Filoriridae [illegible] Filovirus [illegible] Marburg [illegible] 80 [illegible] nucleocapsid [illegible] 1.000 – 800 [illegible] capsomer [illegible] Reston [illegible] .(CDC, 2000) [illegible]

[illegible] 1976 [illegible] 284 [illegible] 1976 [illegible] %53 [illegible] 250 [illegible] 55 [illegible] %88 [illegible] 318 [illegible] 1.000 [illegible] 10 [illegible] %56 [illegible] 10 [illegible] .(Johnson, 1982)

[illegible] 1977 [illegible] 33 [illegible] 22 [illegible] 1979 [illegible]

[illegible] 1976 [illegible] 850 [illegible]

325 1977

1976

1980 .(Heymann *et al.*, 1980) enzootic

315 1994 49 1979 34

425 1996 60 31 1995

.2001 – 2000

(%81) 1995 (%53)

2002 – 2001

1994

1996

.(CDC, 2002)

%19

.(WHO, 1978a) %1

.(Bouree and Bergmann, 1983) %8 reactor

64:1 4:1

200 4

Ivanoff *et al.*, 1982;) (1.024:1 512:1)

.(Knobloch *et al.*, 1982

4265 %3.2 %21.3) %24.4

Johnson *et al.*,) (1993a (%37.5) Aka (Johnson *et al.*, (%13.2) 1993b) (Bertherat *et al.*, %10.2 .1999)

(WHO, 2002; Leroy *et al.*, 2000b) (WHO, 1985) 4 – 3 %48 %90 melena

[illegible] 5 – 4 [illegible] (WHO, 1978b) [illegible] (WHO, 1985) [illegible] (Sureau, 1989) [illegible]

[illegible] (Fenner *et al.*, 1993) [illegible] Langour [illegible] (Peters *et al.*, 1992) [illegible]

[illegible] 1.000 [illegible] 1980 [illegible] Johnaon *et*) [illegible] 1977 [illegible] 184 [illegible] 3 [illegible] (*al.*, 1981 [illegible] 128:1 [illegible] 64:1 [illegible] (Johnson B.k. *et al.*, 1982) [illegible]

[illegible] 67 [illegible] 14 [illegible] 1976 [illegible] 9 [illegible] 14 [illegible] .(WHO, 1978b) [illegible]

[illegible] 7 [illegible] 8 [illegible] .(WHO, 2000) [illegible] .(CDC, 2000)

[illegible] (4 [illegible]

[illegible] Homologous [illegible] .(Geisbert *et al.*, 1991) [illegible] G [illegible] .(Saijo *et al.*, 2001a; Ksiazek *et al.*, 1999; Saijo *et al.*, 2001b; Ikegami *et al.*, 2002)

reserve-transcription [illegible] Drosten *et al.*, 2002, Leroy *et al.*,) [illegible] .(2000a

[illegible] .containment [illegible]

[illegible] CDC,) [illegible] (2000.

[illegible] (Simpson, 1978) [illegible]

## [illegible]


Bertherat E., A. Renault, R. Nabias, G. Dubreuil, M.C. Georges-Courbot. Leptospirosis and Ebola virus infection in five gold-panning villages in northeastern Gabon. *Am J Trop Med Hyg* 60:610–615, 1999.

Bouree, P., J.F. Bergmann. Ebola virus infection in man: A serological and epidemiological survey in the Cameroons. *Am J Trop Med Hyg* 32:1465–1466, 1983.

Drosten, C., S. Gottig, S. Schilling, M. Asper, M. Panning, H. Schmitz, *et al.* Rapid detection and quantification of RNA of Ebola and Marburg viruses, Lassa virus, Crimean-Congo hemorrhagic fever virus, Rift Valley fever virus, dengue virus, and yellow fever virus by real-time reverse-transcription-PCR. *J Clin Microbiol* 40:2323–2330, 2002.

Fenner, F.J., E. Poul, J. Gibbs, F.A. Murphy, R. Rott, M.J. Studdert, D.O. White. *Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.

Geisbert, T.W., J.B. Rhoderick, P.B. Jahrling. Rapid identification of Ebola virus and related filoviruses in fluid specimens using indirect immunoelectron microscopy. *J Clin Pathol* 44:521–522, 1991.

Heymann, D.L., J.S. Weisfeld, P.A. Webb, K.M. Johnson, T. Cairns, H. Berquist. Ebola hemorrhagic fever: Tandala, Zaire, 1977-1978. *J Infect Dis* 142:372–376, 1980.

Ikegami T., M. Saijo, M. Niikura, M.E. Miranda, A.B. Calaor, M. Hernandez, *et al.* Development of an immunofluorescence method for the detection of antibodies to Ebola virus subtype Reston by the use of recombinant nucleoprotein-expressing HeLa cells. *Microbiol Immunol* 46:633–638, 2002.

Ivanoff, B., P. Duquesnoy, G. Languillat, *et al.* Haemorrhagic fever in Gabon. I. Incidence of Lassa, Ebola and Marburg viruses in Haut-Ogooué. *Trans R Soc Trop Med Hyg* 76:719–720, 1982.

Johnson, B.K., L.G. Gitau, A. Gichogo, *et al.* Marburg, Ebola and Rift Valley fever virus antibodies in East African primates. *Trans R Soc Trop Med Hyg* 76:307–310, 1982.

Johnson, E.D., J.P. Gonzalez, A. Georges. Haemorrhagic fever virus activity in equatorial Africa: Distribution and prevalence of filovirus reactive antibody in the Central African Republic. *Trans R Soc Trop Med Hyg* 87:530–535, 1993a.

Johnson, E.D., J.P. Gonzalez, A. Georges. Filovirus activity among selected ethnic groups inhabiting the tropical forest of equatorial Africa. *Trans R Soc Trop Med Hyg* 87:536–538, 1993b.

Johnson, K.M. African hemorrhagic fevers due to Marburg and Ebola viruses. *In*: Evans, A.S., ed. *Viral Infections of Humans*, 2nd ed. New York: Plenum; 1982.

Johnson, K.M., C.L. Scribner, J.B. McCormick. Ecology of Ebola virus: A first clue? *J Infect Dis* 143:749–751, 1981.

Kiley, M.P., E.T.W. Bowen, G.A. Eddy, *et al.* Filoviridae: A taxonomic home for Marburg and Ebola viruses? *Intervirology* 18:24–32, 1982.

Knobloch, J., E.J. Albiez, H. Schmitz. A serological survey on viral haemorrhagic fevers in Liberia. *Ann Virol (Inst Pasteur)* 133E:125–128, 1982.

Ksiazek, T.G., C.P. West, P.E. Rollin, P.B. Jarhling, C.J. Peters. ELISA for the detection of antibodies to Ebola viruses. *J Infect Dis* 179 Suppl 1:S192–198, 1999.

Leroy, E.M., S. Baize, C.Y. Lu, J.B. McCormick, A.J. Georges, M.C. Georges-Courbot, *et al.* Diagnosis of Ebola haemorrhagic fever by RT-PCR in an epidemic setting. *J Med Virol* 60:463–467, 2000a.

Leroy, E.M., S. Baize, V.E. Volchkov, S.P. Fisher-Hoch, M.C. Georges-Courbot, J. Lansoud-Soukate, *et al.* Human asymptomatic Ebola infection and strong inflammatory response. *Lancet* 355:2210–2215, 2000b.

McCormick, J.B., S.P. Bauer, L.H. Elliot, P.A. Webb, K.M. Johnson. Biologic differences between strains of Ebola virus from Zaire and Sudan. *J Infect Dis* 147:264–267, 1983. (See also the three articles that follow in this journal.)

Peters, C.J., P.B. Jahrling, T.G. Ksiazek, E.D. Johnson, H.W. Lupton. Filovirus contamination of cell cultures. *Dev Biol Stand* 76:267–274, 1992.

Saijo M., M. Niikura, S. Morikawa, T.G. Ksiazek, R.F. Meyer, C.J. Peters, *et al.* Enzyme-linked immunosorbent assays for detection of antibodies to Ebola and Marburg viruses using recombinant nucleoproteins. *J Clin Microbiol* 39:1–7, 2001a.

Saijo M., M. Niikura, S. Morikawa, I. Kurane. Immunofluorescence method for detection of Ebola virus immunoglobulin G, using HeLa cells which express recombinant nucleoprotein. *J Clin Microbiol* 39:776–778, 2001b.

Simpson, D.I. Infecciones por virus de Marburgo y Ebola: guía para su diagnóstico, tratamiento y control. *Bol Of Sanit Panam* 85:54–72, 1978.

Sureau, P.H. Firsthand clinical observations of hemorrhagic manifestations in Ebola hemorrhagic fever in Zaire. *Rev Infect Dis* 11(Supp 4):S790–S793, 1989.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Ebola hemorrhagic fever. Table showing known cases and outbreaks, in chronological order. Available at www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/ebotabl.htm. Accessed January 2003.

World Health Organization (WHO). Ebola haemorrhagic fever in Zaire, 1976. Report of an International Commission. *Bull World Health Organ* 56:271–293, 1978a.

World Health Organization (WHO). Ebola haemorrhagic fever in Sudan, 1976. Report of a WHO International Study Team. *Bull World Health Organ* 56:247–270, 1978b.

World Health Organization (WHO). *Viral Haemorrhagic Fevers. Report of a WHO Expert Committee*. Geneva: WHO; 1985. (Technical Report Series 721).

World Health Organization (WHO). Ebola haemorrhagic fever. Fact Sheet No. 103. Rev. December 2000. Geneva: WHO; 2000.

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## ENCEPHALOMYOCARDITIS [illegible]

**[illegible] B33.8 ICD-10**
**ICD-10 B33.8 Other specified viral diseases**

[illegible] SK- [illegible] MM

[illegible] .Pcornaviridne [illegible] *Crdiovirus* [illegible] capsid [illegible] 30 – 25 [illegible] .icosahedrally [illegible] *Rhinovirus* [illegible] *Enterovirus* [illegible] *Hepatovirus* [illegible] *Aphthovirus* [illegible] .(A [illegible]

[illegible] 1946 – 1945 [illegible] 44 [illegible] %38.6 [illegible]

[illegible]

ĶģşäÀķş ÜΒÀĤöä ȸŋ ǦÀΫǪƯ ĘüÀÀŋ ȸŋ ģæʑǹüŋ ǦÀÀÎæ òÀÔŋÜ ?Ÿ3 òäÆĤǪèɼä ğÀèäøá ğäáʑǱʑţä ȻØŁ ΚÎķ ·ƙ8öÀǤöä Ž 506 БÜ 32 ƙæş ÛòÀÀüǰä Ž 389 ƙæ ğɼÆĤţä ȷşá ÀǬ şÜ ǴƐɼäÀ3Ü ɼ ?şÆĤöä ğɼÀģ ĮŢĤŋ ȷÜş ÛǦĤəÀÌ âşKÀöä äØö ?şÆĤöä ȷÜ БÜ Ž ÀŁÀƤ Ž ƟΫÔţä øÀÎǪɼä ?Ÿ3 ğÀģʑÊŋ ǰəÀǪ ğÀƮşÜ ·(Tesh, 1978) ÒƐÁÎķ ·(Zimmermon *et al.*, 1991) (131/26) %19.8ş (947/33) %3.5ş ƙæ ģÆĦǪţä ğÀÀɼʑöä

ȸŋ ȸÀÆÀÆ3 öÀÀʑǪÜ ÆΫŐöäş ğΫȒĤöäş ȟÀŋÆöä āÀƮǪöä âşKÀö ·ğÀǪäʑƐΣä Ž ǫşÆΣä ȷʑõäÀöä БÜ ǴʑÀɼÜ ÛÈƐǪÀÊÀöäş ôøäʑŐöä ȸŋ ǦÀΫǪƯ ţäʑǪÜ ȸŋ åÀÀǪèä Æęş Ûğ ÀǪäʑƐΣä ·ǴÀƎöä øʑƐÛöä ȸŋ ģÆÀÆ3 ţäʑǪÜş Èȶ Àöäş ǦΫƐÀöäş ÀÀäÀÀʅäş ǴƐÌÀţäş òʑƐʅäş äÆÀøʑΫʑş ÀȶÀæş äÆÀΫÀäʑƐǪş Àæʑõş ÀƐöäÀǪèÜ ȸŋ Ōõ Ž ÀÀäÀÀʅä Ž ǴƐʑäʑè ğÀƐÌÀʑ ĶǪÆģ Ž ôÀţä ȸ3 ŋƐΫǤǪöä Ź ·Àæʑõ ƟÀʑ ·ǦĤÀĶÀŋ ǦĶÀŋÜ ğɼÆĤŋ БÜ ğáÜ Æęş ÛģÆĦǪţä ğÀÀɼʑÀæ ǦĶÀŋǫäş Ǵɼ äÀţä ȸŋ ǦĤÀĶÀŋ ğɼÆĤŋ 3ŋ Û1981 – 1975 ģÀǪÀöä òΫǹ ĮƐöÀęÜ 9 Ž ÀÀäÀÀʅä ·(Ramos *et al.*, 1983)

äʑÀÜ ǴÀɼş Ž ȷÀĤÛę 104 ȸŋ ÄÀÀÂøÀǹ 2.614 ǴÊţ ŎÔţä òäÆĤǪèä øÀǤǪǹä ÿÆÅǪèä ƟΫÔţä øÀÎǪɼä ȷÀõ ·ÀǯõÜ şÜ ÄŸ3ÀÀŋ ɃʑƠ ȷÀĤÛŐöä ȸŋ %89.4 ȷÜ ÆǱşş ÛǦƐÒÀÀŋǰä ·(Zimmerman *et al.*, 1991) ĘÀʑÊǪöä ÀÀäÀÀǹ ƙæ %8.5ş ÛģÆöʑǪÊţä ğÀǪäʑƐΣä ƙæ %13.8 ÄĤƐÛę 42 ȸŋ ÄÀÀÂøÀǹ 635 Ž %6.9 òÆĤŋ ƟΫÔŋ øÀÎǪǪä ÆǱş ÆŐʑ ·ÀƐöÀÛÀÜ Ž ÀŋÜ øÀÎǪɼä БÜ ?ÀǹÜ ȷÀÆΫæ Ž БÀĤöä ƟΫÔţä øÀÎǪɼä òÆĤŋ ΚÎÀ ·(Gualandi *et al.*, 1989) ·?şÆĤöä ȻØT 3èäʑöä

ǴƐǤÔĤöä ǴΫȶƨä ȣÀÀǪõäş ?ȶΣä ğÆŁʑÌ ÆŐʑ ·ôäÀ3ǰä ƵΫǪơ ·ȷÀÊǪqä Ž ôÀţä Ƀ3ÀÁÀöä ŌəÀÊöä ÀÀΫǹ ģÀǯõ БÜ ǴʑÀɼÜ ÛòÀÀüǰä ÆÀ3 ôÀţä ȸŋ ǴöÀģ 14 Ž ǴÀÀõÀţä Ž ÄÀǱÀÀŋ ôÀţä öÆæ ȷÀõ ·ŌΫÌ ǫşÆģ ȷÀƐģǰä ȒĤæ Žş ÛǤÀşÀÀȶΫöä pleocytoisis 3 – 2 Ķŋáá ?ƥş ÆÀÆÌ ţäÆò 3ŋ ƙǴƐΫÀöä Ž ƙƐÒÀÀŋǰä áʑÀƨä ƙæ ĶǪÆģ ƟøǪöä ǴƐÌÀÀöä ģÀǯõ ·ğÀÊÒĤÀţä òΫǪ3äş ǤǤęÀöä ÈǤƐķş ÿʑĤΫǤöä āÀƮǪöä ·ƟŁ ģÀķäʑǪţä ?ÀǹǰÄ ôäÀ3ǰä ·ÿÀÀÜ ·ŌƐæÀŐ3 ȷşá ÿÀÀÜ 5 – 4 òΫǹ ?ɼÀţä Ōõ ƟÀÌ ·ÄǪæÀǫ ȷÀõ ğÀÀÀÒöä ·ȷÀÊǪqä Ž ǴƐǤΫŐöä ǤΫȒĤöä āÀƮǪöä ÆŁÀÎÀ ɼ ÛÀÀäÀÀʅä Ž ôÀȶΫö ÄʑΫǹş

[illegible]
[illegible]
[illegible]
[illegible] 20 – 3 [illegible]
[illegible] hydropericarditis [illegible]
[illegible]
.(Murnane, 1981) [illegible]
[illegible] 277 [illegible] 22 [illegible] 1970 [illegible]
[illegible]
[illegible] 57 [illegible] 42 [illegible]
[illegible] (Lavicka *et al*) [illegible] %47.7 [illegible] %6.6 [illegible]
.(Gómez *et al.*, 1982) [illegible]

[illegible]
[illegible] mummification [illegible]
[illegible] 135 [illegible] (%17) 23 [illegible]
[illegible] litter [illegible] 3 [illegible] 69 [illegible]
[illegible] .liveborn [illegible] 23 [illegible]
Links *et al.*,) [illegible]
[illegible] .(1986
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] .(Dea *et al.*, 1991) [illegible] pneumotropic
[illegible]
[illegible]

80 baboons 3.060 22

.(Hubbard *et al.*, 1992)

.Wallace, 1978

(Tesh and

.(Tesh and Wallace, 1978)

[illegible] 8 – 6 [illegible] (Littlejohns and Acland, 1975) [illegible]

[illegible] BHK – 21,) [illegible] (Vero, HeLa [illegible] pantropic [illegible]

[illegible] (Joo, 1992) [illegible]

Acland, H.M., I.R. Littlejohns. Encephalomyocarditis virus infection of pigs. 1. An outbreak in New South Wales. *Aust Vet J* 51:409–415, 1975.

Andrewes, C.H. *Viruses of Vertebrates*. Baltimore: Williams and Wilkins; 1964.

Dea, S., R. Bilodeau, R. Sauvageau, G.P. Martineau. Outbreaks in Quebec pig farms of respiratory and reproductive problems associated with encephalomyocarditis virus. *J Vet Diagn Invest* 3:275–282, 1991.

Gainer, J.H. Encephalomyocarditis virus infections in Florida, 1960–1966. *J Am Vet Med Assoc* 151:421–425, 1967.

Gainer, J.H., J.R. Sandefur, W.J. Bigler. High mortality in a Florida swine herd infected with encephalomyocarditis virus. An accompanying epizootiological survey. *Cornell Vet* 58:31–47, 1968.

Gómez, L., M. Lorenzo, J.R. Ramos, M.J. Luya, D. Mayo, T. Giral. Aislamiento del virus de la encefalomiocarditis en una cerda y su feto. *Rev Cub Cienc Vet* 13:21–24, 1982.

Gualandi, G.L., G. Cammi, G. Cardetti. A serologic survey of encephalomyocarditis virus infection in pigs in Italy. *Microbiologica* 12:129–132, 1989.

Hubbard, G.B., K.F. Soike, T.M. Butler, *et al.* An encephalomyocarditis virus epizootic in a baboon colony. *Lab Animal Sci* 42:233–239, 1992.

Joo, H.S. Encephalomyocarditis virus. *In*: Leeman, A.D., B.E. Straw, W.L. Mengeling, S. D'Allaire, D.J. Taylor, eds. *Diseases of Swine*, 7th ed. Ames: Iowa State University Press; 1992.

Lennette, E.H., N.J. Schmidt. *Diagnostic Procedures for Viral and Rickettsial Infections*, 4th ed. New York: American Public Health Association; 1969.

Links, I.J., R.J. Whittington, D.J. Kennedy, A. Grewal, A.J. Sharrock. An association between encephalomyocarditis virus infection and reproductive failure in pigs. *Aust Vet J* 63:150–152, 1986.

Littlejohns, I.R., H.M. Acland. Encephalomyocarditis virus infection of pigs. 2. Experimental disease. *Aust Vet J* 51:416–422, 1975.

Murnane, T.G. Encephalomyocarditis. *In*: Beran, G.W, section ed. Section B, Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1981.

Ramos, J.R., L. Gómez, M. Mayo, G. Sánchez. Infecciones causadas por el virus de la encefalomiocarditis en cerdos y otras especies en Cuba, durante los años 1975–1981. *Rev Cub Cienc Vet* 14:71–77, 1983.

Rhodes, A.J., C.E. van Rooyen. *Textbook of Virology for Students and Practitioners of Medicine*, 4th ed. Baltimore: Williams and Wilkins; 1962.

Tesh, R.B. The prevalence of encephalomyocarditis virus neutralizing antibodies among various human populations. *Am J Trop Med Hyg* 27:144–149, 1978.

Tesh, R.B., G.D. Wallace. Observations on the natural history of encephalomyocarditis virus. *Am J Trop Med Hyg* 27:133–143, 1978.

Warren, J. Encephalomyocarditis viruses. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Zimmerman, J.J., W.J. Owen, H.T. Hill, G.W. Beran. Seroprevalence of antibodies against encephalomyocarditis virus in swine of Iowa. *J Am Vet Med Assoc* 199:1737–1741, 1991.

## EPIDEMIC POLYARTHRITIS [illegible]

### ICD-10 B33.1 Ross River disease [illegible] ICD-10 B33.1

.exanthema [illegible]

[illegible] Alphavirus [illegible] .Togaviridae [illegible] .(Woodroofe *et al.*, 1977) [illegible] 70 – 60 [illegible] bilayered [illegible] Semliki [illegible] Bebaru [illegible] .Chikungunya [illegible] Mayaro [illegible] .[1]Getah

[illegible] 1979 [illegible] cook [illegible]

[illegible] 4.705 [illegible] 2000 – 1991 [illegible] 47049 [illegible] 1996 [illegible] 7.750 [illegible] 1995 [illegible] 2.571 [illegible]

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[1] [illegible] aedes [illegible] vexans

[illegible] 1979 [illegible] 630.000 [illegible] 300.000 [illegible] 50.000 [illegible] (Miles and Mataika., 1981) [illegible] (Tesh *et al.*, 1981) [illegible] 31.000 [illegible] 13.500 [illegible] 1992 [illegible] (Rosen *et al.*, 1981) [illegible] 100.000 [illegible] 36.4 [illegible] 5.516 [illegible] 1993 [illegible] 100.000 [illegible] 139.6 [illegible] 100.000 [illegible] 34.1 [illegible] 123 [illegible] 1.602 [illegible] (WHO, 1994) [illegible]

[illegible] 1991 [illegible] 2.873 [illegible] %72 [illegible] %25 [illegible] %8.5 [illegible] 1991 – 1981 [illegible] 1981 [illegible] 39 – 30 [illegible] (Hawkes *et al.*, 1993) [illegible]

[illegible]

[illegible] 21 [illegible] 3 [illegible] 9 [illegible]

[illegible] °38 [illegible] Knuckles [illegible] "[illegible]" [illegible] %40 [illegible] Mudge and) [illegible] 5 [illegible] 6 [illegible] incapacity [illegible] .(Aaskov, 1983; Fraser, 1986 [illegible] 1.196 [illegible] . (Hawkes *et al.*, 1985) 1984 – 1983 [illegible] O'nyong [illegible] – [illegible] Chikungunya [illegible] Mayaro [illegible] Barmah [illegible] .Sindbis [illegible] nyong

[illegible] virologic [illegible] .(Gard *et al.*, 1977)

[illegible]

[illegible] *Aedes vigilax* [illegible]

[illegible] *A. polnesiensis* [illegible]

(Vale *et al.*, 1992) [illegible] (%1.6) [illegible]

[illegible] *Norman* [illegible]

[illegible]

(Broom *et al.*, 1989) [illegible]

[illegible] (1993) [illegible]

[illegible] *A. tremulus* [illegible]

[illegible] macropods [illegible]

[illegible]

(Rosen et al., 1981)

(Rosen et al., 1981)

(Tesh et al., 1981)

11.368 M

M 1979

Aaskov et al.,)

(1981

(1993)

(Miles and Mataika, 1981)

[illegible]

[illegible] M [illegible] Mackenzie *et al.*,) [illegible] Presumptive [illegible] .(Harley *et al.*, 2001 [illegible] 1993, and McIntosh, 1996 [illegible] 28 – 8 [illegible] 7 [illegible] Harley *et* [illegible] Mackenzie *et al.*, 1993) [illegible] 4 [illegible] .(*al.*, 2001 Mackenzie *et al.*, 1993,) [illegible] .(Harley *et al.*, 2001 [illegible] Calisher and Karabatos, 1988,

[illegible] PS/Ek [illegible] Vero [illegible] (*albopictus* [illegible] 36/C6 [illegible]

[illegible]

## [illegible]


Aaskov, J.G., K. Nair, G.W. Lawrence, D.A. Dalglish, M. Tucker. Evidence for transplacental transmission of Ross River virus in humans. *Med J Aust* 2:20–21, 1981.

Broom, A.K., A.E. Wright, J.S. MacKenzie, M.D. Lindsay, D. Robinson. Isolation of Murray Valley encephalitis and Ross River viruses from *Aedes normanensis* (Diptera: Culicidae) in Western Australia. *J Med Entomol* 26:100–103, 1989. [Cited in Lindsay *et al.*, 1993].

Calisher, C.H., N. Karabatsos. Arbovirus serogroups: Definition and geographic distribution. *In:* Monath, T.P., ed. Volume 1: *The Arboviruses: Epidemiology and Ecology*. Boca Raton: CRC Press; 1988, cited in Harley D., A. Sleigh, S. Ritchie. Ross River virus transmission, infection, and disease: A cross-disciplinary review. *Clinical Microbiology Reviews* 4:909–932, 2001.

Communicable Diseases Network Australia, National Notifiable Diseases Surveillance Network System. Notifications of Ross River virus infection received by State and Territory

health authorities in the period of 1991 to 2001 and year-to-date notifications for 2002, by year and month. Accessed 9 December 2002 at www.health.gov.au/pubhlth/cdi/nndss/year002.htm.

Doherty, R.L., J.G. Carley, J.C. Best. Isolation of Ross River virus from man. *Med J Aust* 1:1083–1084, 1972.

Fraser, J.R. Epidemic polyarthritis and Ross River virus disease. *Clinics Rheum Dis* 12:369–388, 1986.

Gard, G.P., I.D. Marshall, K.H. Walker, H.M. Acland, W.G. Sarem. Association of Australian arboviruses with nervous disease in horses. *Aust Vet J* 53:61–66, 1977.

Hawkes, R.A, C.R. Boughton, H.M. Naim, N.D. Stallman. A major outbreak of epidemic polyarthritis in New South Wales during the summer of 1983/84. *Med J Aust* 143:330–333, 1985.

Hawkes, R.A., J. Pamplin, C.R. Boughton, H.M. Naim. Arbovirus infections of humans in high-risk areas of south-eastern Australia: A continuing study. *Med J Aust* 159:159–162, 1993.

Lindsay, M.D., A.K. Broom, A.E. Wright, C.A. Johansen, J.S. Mackenzie. Ross River virus isolation from mosquitoes in arid regions of Western Australia: Implication of vertical transmission as a means of persistence of the virus. *Am J Trop Med Hyg* 49:686–696, 1993.

Mackenzie, J.S., A.K. Broom, C.H. Calisher, M.J. Cloonan, A.L. Cunningham, C.A. Gibson, *et al.* Diagnosis and reporting of arbovirus infections in Australia. *Arbovirus Res Aust* 6:89-93, 1993, cited in Harley D., A. Sleigh, S. Ritchie. Ross River virus transmission, infection, and disease: A cross-disciplinary review. *Clinical Microbiology Reviews* 4:909–932, 2001.

McIntosh, K. Diagnostic virology. *In:* Fields, B.N., D.M. Knipe, and P.M. Howley, eds. Volume I: *Fields Virology*, 3rd ed. Philadelphia: Lippincott-Raven, 1996, cited in Harley D., A. Sleigh, S. Ritchie. Ross River virus transmission, infection, and disease: A cross-disciplinary review. *Clinical Microbiology Reviews* 4:909–932, 2001.

Miles, J.A., J.U. Mataika. On the spread of Ross River virus through the islands of the Pacific. *In:* Fowler, M.E., ed. *Wildlife Diseases of the Pacific Basin and Other Countries. Proceedings of the 4th International Conference of the Wildlife Disease Association, Sydney, Australia, August 25–28, 1981*. Lawrence: Wildlife Disease Association; 1981.

Mudge, P.R., J.G. Aaskov. Epidemic arthritis in Australia, 1980–1981. *Med J Aust* 2:269–273, 1983.

Rosen, L., D.J. Gubler, P.H. Bennet. Epidemic polyarthritis (Ross River) virus infection in the Cook Islands. *Am J Trop Med Hyg* 30:1294–1302, 1981.

Tesh, R.B. Arthritides caused by mosquito-borne viruses. *Annu Rev Med* 33:31–40, 1982.

Tesh, R.B. Undifferentiated arboviral fevers. *In:* Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Tesh, R.B., R.G. McLean, D.A. Shroyer, C.H. Calisher, L. Rosen. Ross River (Togaviridae: *Alphavirus*) infection (epidemic polyarthritis) in the American Samoa. *Trans R Soc Trop Med Hyg* 75:426–431, 1981.

Vale, T.G., M.L. Dowling, M.J. Cloonan. Infection and multiplication of Ross River virus in the mosquito vector *Aedes vigilax*. *Aust J Zool* 40:35–41, 1992. [Cited in Lindsay *et al.*, 1993].

Woodroofe, G., I.D. Marshall, W.P. Taylor. Antigenically distinct strains of Ross River virus from north Queensland and coastal New South Wales. *Aust J Exp Biol Med Sci* 55:79–97, 1977.

World Health Organization. Ross River virus infection. *Wkly Epidemiol Rec* 69:98–99, 1994.

[illegible] C [illegible]

## FEVER CAUSED BY GROUP C BUNYAVIRUSES

[illegible] ICD-10 A93.8

### ICD–10 A93.8 Other specified arthropod – borne fevers

[illegible] serogroup [illegible] 100 – 90 [illegible] *Bunyaviridae* [illegible] B, A [illegible] C [illegible] C [illegible] 4 [illegible] Bruconha [illegible] (*Melanoconion* [illegible]) [illegible] .(Calisher *et al*., 1983) *Sacchattae*

[illegible] C [illegible] native [illegible]

Caraparu [illegible] 50 [illegible] .Oriboca [illegible] 534 [illegible] 102 [illegible] Murutucu [illegible] 83 [illegible] 12 [illegible] 9 [illegible]

[illegible] .(Iversson *et al.,* 1987) [illegible]

[illegible]

| [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|
| [illegible] | [illegible] | Ossa [illegible] | [illegible] |
| Caraparu | Apeu [illegible] | | [illegible] |
| | [illegible] | | [illegible] |
| Marituba [illegible] | [illegible] | [illegible] | [illegible] |
| | Nepuyo [illegible] | Restan [illegible] | [illegible] |
| | | Gumbo Limbo [illegible] | [illegible] |
| | | | [illegible] |
| | | | [illegible] |
| Oriboca [illegible] | [illegible] | | [illegible] |
| | Itaqui [illegible] | | [illegible] |
| | | | [illegible] |

Berg, T.O., ed *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates,* 2nd ed. Atlanta; Centers for Diseases Control; 1975. (DHEW pub1. CDC 75-8301). Table reproduced in Scherer *et al.,* 1983. [illegible]

[illegible] 6 – 2 [illegible] undifferentiated [illegible]

[illegible] sloth [illegible]

[illegible]

[illegible] :(14 [illegible]) [illegible]

*Proechimys guyannensis* : [illegible]

.*Zygodontomys, oryzomys* : [illegible] *Oryzomys capito* [illegible]

*Melanoconion* ([illegible]) [illegible] *culex* [illegible]

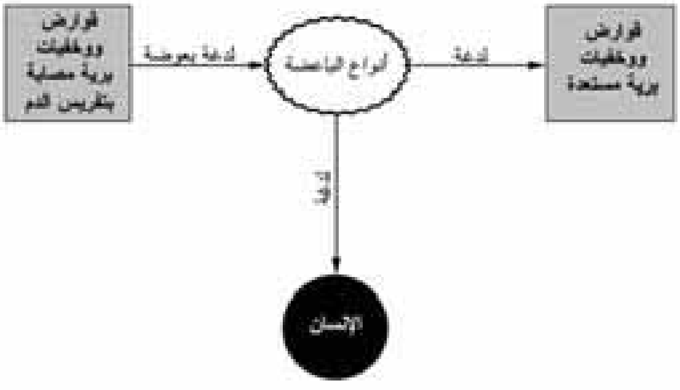
[illegible] *portesi* [illegible] *vomerifer* [illegible]

[illegible]

[illegible]

[illegible]

14: [illegible] C [illegible]




[illegible] VERO [illegible]

[illegible]

ʊøɯɛƥøǅǁɛ

Buckley, S.M., J.L. Davis, J. Madalengoitia, W. Flores, J. Casals. Arbovirus neutralization tests with Peruvian sera in VERO cell cultures. *Bull World Health Organ* 46:451–455, 1972.

Calisher, C.H., T.L. Coimbra, O. de S. Lopes, *et al.* Identification of new Guama and Group C serogroup bunyaviruses and an ungrouped virus from Southern Brazil. *Am J Trop Med Hyg* 32:424–431, 1983.

Casals, J., D.H. Clarke. Arboviruses other than group A and B. *In:* Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Iversson, L.B., A.P. Travassos da Rosa, T.L. Coimbra, I.B. Ferreira, E. da S. Nassar. Human disease in Ribeira Valley, Brazil, caused by Caraparu, a group C arbovirus: Report of a case. *Rev Inst Med Trop Sao Paulo* 29:112–117, 1987.

Jonkers, A.H., L. Spence, W.G. Downs, T.H. Aitken, C.B. Worth. Arbovirus studies in Bush Bush Forest, Trinidad, W.I., September 1959–December 1964. VI. Rodent-associated viruses (VEE and agents of group C and Guama): Isolations and further studies. *Am J Trop Med Hyg* 17:285–298, 1968.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

Scherer, W.F., R.W. Dickerman, J.V. Ordoñez. Enfermedad humana causada por el virus Nepuyo, un bunyavirus de Mesoamérica transmitido por mosquitos. *Bol Of Sanit Panam* 95:111–117, 1983.

Spence, L., A.H. Jonkers, L.S. Grant. Arbovirus in the Caribbean Islands. *Progr Med Virol* 10:415–486, 1968.

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## FOOT-AND-MOUTH DISEASE !ƻǁɛǋ !ɋƪǁɛ ƅɛɋ

ƕĭʅʒŬɛǋ ɋǂɯǁɛ Ĭʓ ʅƑʒƇǴ ƦĭǅȞ ǌƥɑʗ ƕĭƳǌǰ ƕĭƨǋƥĭʓ ǌǋɛɋƳ **ICD-10 B08.8**

ƕĭƱƑɑǅǁɛ

**ICD-10 B08.8 Other specified viral infections characterized by skin and mucous membrane lesions**

ŰĞŧʒŶŐä ʔŧΣä ŰˈŀÅöäş hoof ÀʐÅΣä ŏäå Ű(aftosa, Aphthosis) ɄʒŶŐä ŏäÆöä ˸ğÅʐåäÀţä .contagious ɃÆĦţä ţŶŐä Űepizootic aphthae ŽäʐÊöä ţŶŐä

*ĞèşĶÁöä* ÈÆDZ ƂŰ ɄŧɊÀ Ŭȣ ÆÎɊŋ Ķɖ àÅÛöä ÆŧĝşŰƙŎä ɃşÅɸø âşĶʐ ˸ğÅŧǴÊöä ȻØŁ ğÅèşĶʐ .Picornaviridae ĞÁşÅɸøʐÒŧǴöä ğÅèşĶÁöä ĞŶŧÔʐ Ű*aphtovirus ĞŧʒŶŐä* ȻʐDZʐöä ĞŧɸşÀÎʒ ğÀşÅÀɊŋ capsid ĞÔŧÅę ÅŢş ŰÀɊŋʐɸÅɸ 30 – 20 ÈŧŐķ ŧÆDZ ğĶȣò ĞŶŧÔÀöä ĞÔŧÅŐöä Ȥöüɋķ .solvents ğÅĞÁØţäş detergents ğÅÀŢÀŧŶö ĞŋşÅŐŋ ğÅɸʐÁĶÀöä ˸ȣŶɖ ɉşå

VP1, VP2, VP3, [illegible] capsomere [illegible] 60 [illegible] VP4 [illegible] VP4 [illegible] VP1 [illegible] nucleoid

$SAT_3$, ASIA1, C, O, A $SAT_1$, [illegible] antigenic plasticitity [illegible] $SAT_2$, [illegible] mutate [illegible]

[illegible] C, O, A [illegible] $SAT_1$ [illegible] 1962 [illegible] SAT [illegible] 1970 [illegible] 1973 [illegible] ASIA1 [illegible] (Pereira, 1981) [illegible] (FAO, 1985) [illegible] 1984

[illegible] O Pan Asia [illegible] 1990 [illegible] 1998 [illegible] 1996 [illegible] 2000 [illegible] 1908, 1934 [illegible]

2001 – 2000 [illegible]

[illegible]
[illegible] 2001 [illegible] 2000 [illegible]
[illegible]
2001 [illegible] 20 [illegible] 1981 [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] 2.026 [illegible]
[illegible] 26) [illegible]
[illegible] 6 [illegible]
[illegible]
[illegible] 27.000 [illegible] 1.9 [illegible]
[illegible]
%99.96 [illegible] %99.8 [illegible] 2001 [illegible] 22 [illegible]
[illegible]

[illegible]
[illegible] 1992 [illegible]
[illegible]
[illegible] 2003 [illegible]
[illegible]
[illegible]
OIE,) [illegible]
.(2003

[illegible]

[illegible] 161 [illegible] 766 [illegible] 1990 [illegible] 1999 [illegible] (PAHO, PANAFTOSA, 2000) 1994 [illegible]

[illegible] 2001 [illegible] 2000 [illegible] 2.126 [illegible] 2001 [illegible] A [illegible] 81 [illegible] O [illegible] 7 [illegible] A [illegible] O [illegible] 5 [illegible] A [illegible] 15 [illegible] 4 [illegible] O [illegible] 15 [illegible] 61 [illegible] .2001 [illegible] .2003 [illegible] 42 [illegible] .(OIE, 2003) [illegible] 2002 [illegible] .(OIE, 2003) [illegible] .2003 (OIE, 2003) [illegible] .(FEDSA, 2001) [illegible]

[illegible] A22 [illegible] O1 [illegible]

.2001 2000 … 1992 – 1991 …

… SAT2, SAT1, A …

.(OIE, 2003) …

:2003 … ASIA1, C, O, A …

… (OIE, 2003) …

… 40 …

enzootic

panzootic [2]

exotic

inactive

(Cases Olascoaga *et al.*, 1982)

(endenopidemic

4 – 2

8

2. panzootic

[illegible] (1962) [illegible] aphthae [illegible] $10^{-3.3}$ $LD_{50}$ [illegible] $10^{-6.5}$ [illegible] 7 [illegible] (Pilz and Garbe, 1965) [illegible] 1965 – 1960 [illegible]

[illegible] °38 [illegible] (Eisner *et al.*, 1967) [illegible]

[illegible] (1967) [illegible] (1967) [illegible]

[illegible] 3 [illegible] cytopathic [illegible] O [illegible] $TCID_{50}$ [illegible] $10^{6.8}$ ID [illegible] 30 [illegible]

[illegible] 36 [illegible] cytopathogenic [illegible] O [illegible] (Meléndez, 1961) [illegible] 416.000 TCID [illegible] ID 61

[illegible] C [illegible] O [illegible] 21 [illegible] 15 [illegible] A [illegible] (Wetterlein, 1954) [illegible] A [illegible] C [illegible] 13 O [illegible]

cloven-hoofed [illegible]

[illegible]

[illegible] 4 [illegible] 48 [illegible]

[illegible] aphtha [illegible] band [illegible] interdigital [illegible]

[illegible] 3 – 1 [illegible] 2 – 1 [illegible]

%5 [illegible] %4 [illegible] %2 [illegible] %1 [illegible]

[illegible] snout [illegible]

[illegible] 22.000 [illegible] %10 [illegible] 1924 [illegible] (*Erinaceus europaeus*) [illegible] overwinter [illegible] (Hedger, 1981) [illegible]

[illegible] (*Syncerus caffer*) [illegible] bovid [illegible]

[illegible] 5 [illegible] (1981) [illegible]

[illegible] prodromal [illegible] 5 – 3 [illegible] aphthae [illegible] 10 – 8 [illegible] abiate [illegible] 4 – 1 [illegible] (Brooksby, 1982) [illegible]

.(Callis, 1979) [illegible] °85 [illegible] 4 [illegible]

offal

probang (Brooksby, 1982)

(Brooksby, 1982)

(1993)

9 2.5

[illegible] .(Anderson *et al*., 1974) [illegible] %3.34 [illegible] %0.49 [illegible] (8 [illegible]) [illegible] %42 [illegible] %32 [illegible] VIA[3] [illegible] (Mathias *et al*., 1981) [illegible] 7 [illegible] tangentially [illegible] (*Saiga tatarica*) [illegible] 1967 [illegible] (*Syncerus caffer*) [illegible] .(Hedger, 1981) [illegible]

3 [illegible] virus-infection -associated [illegible] VIA [illegible] 6 [illegible]

[illegible] 48 [illegible] 14 [illegible] (Hyslop, 1970) [illegible] probang [illegible] 15 [illegible] 48 [illegible] 24 [illegible] transfer [illegible] (Sellers *et al.*, 1971) [illegible] (Sellers *et al.*, 1971) [illegible]

[illegible]

[illegible] inoculation [illegible]

[illegible] [4] [illegible]

[illegible] Crowther and Abu) [illegible] (Elzein, 1979; Gomes *et al.*, 1989 [illegible]

[illegible]

[4] [illegible] *calicivirus* [illegible] 1956 [illegible] (Oden hal, 1983) [illegible] (Karstad, 1981) [illegible]

[illegible]

[illegible] livestock [illegible] 1992 [illegible]

[illegible] %100 [illegible] 6 [illegible] (Bahnemann and Mesquita, 1987) [illegible] 90 [illegible] 30 [illegible] 21 [illegible] 30 [illegible] 30 [illegible] 3 [illegible]

[illegible] *et al.*, 1988) [illegible]

[illegible] 6 [illegible]

[illegible] subunits [illegible] VP3 [illegible] 20 [illegible] Bittle *et al.*,) [illegible] 1982).

[illegible]

[illegible]

Acha, P.N. Epidemiology of FMD in South America. *In*: Pollard, M., ed. *Foot-and-Mouth Disease*. Notre Dame: Indiana; 1973.

Anderson, E.C., W.G. Doughty, J. Anderson. The effect of repeated vaccination in an enzootic FMD area on the incidence of virus carrier cattle. *J Hyg (Lond)* 73:229–235, 1974.

Armstrong, R., J. Davie, R.S. Hedger. FMD in man. *Brit Med J* 4:529–530, 1967.

Bachrach, H.L. Foot-and-mouth disease. *Annu Rev Microbiol* 22:201–244, 1968.

Bahnemann, H.G., J.A. Mesquita. Vacuna antiaftosa con adyuvante oleoso. *Bol Cen Panam Fiebre Aftosa* 53:19–24, 1987.

Bittle, J.L., R.A. Houghten, H. Alexander, *et al.* Protection against FMD by immunization with chemically synthesized peptide predicted from the viral nucleotide sequence. *Nature* 298:30–33, 1982.

Bohm, H.O. Die Maul-und-Keluenseuche als Erkrankung des Menschen. *Fortschr Vet Med* 17:140–144, 1972.

Brooksby, J.B. FMD in man: Notes on a recent case. *Proc Annu Meet US Anim Health Assoc* 71:300–302, 1967.

Brooksby, J.B. Wild animals and the epizootiology of foot-and-mouth disease. *In:* McDiarmid, A., ed. *Diseases in Free-living Wild Animals: The Proceedings of a Symposium Held at the Zoological Society of London on 9 and 10 May 1968.* New York: Academic Press; 1969.

Brooksby, J.B. Portraits of viruses: FMD virus. *Intervirology* 18:1–23, 1982.

Cadena, J., J. Estupiñán, eds. *La fiebre aftosa y otras enfermedades vesiculares en Colombia.* Bogotá: Instituto Colombiano Agropecuario; 1975. (Boletín Técnico 32).

Callis, J.J. Foot-and-mouth disease: A world problem. *Proc Annu Meet US Anim Health Assoc* 83:261–269, 1979.

Casas Olascoaga, R., F.J. Rosenberg, V.M. Astudillo. Situación de las enfermedades vesiculares en las Américas, 1981. *In:* Sociedad de Medicina Veterinaria, ed. *Actas, 3<sup>er</sup> Congreso Nacional de Veterinaria.* Montevideo: Sociedad de Medicina Veterinaria; 1982.

Casas Olascoaga, R., P. Augé de Mello, I. Bergmann. Perspectivas para nuevas vacunas en América Latina y en el Caribe. *Bol Cent Panam Fiebre Aftosa* 54:7–20, 1988.

Crowter, J.R., E.M. Abu Elzein. Application of the enzyme-linked immunosorbent assay to the detection and identification of FMD viruses. *J Hyg (Lond)* 83:513–519, 1979.

Dawson, P.S. The involvement of milk in the spread of foot-and-mouth disease: An epidemiological study. *Vet Rec* 87:543–548, 1970.

Diego, A.I. de. La fiebre aftosa como zoonosis. *Rev Med Vet (B Aires)* 55:119–135, 1974.

Eisner, G., H.O. Böhm, E. Jülich. Un caso de fiebre aftosa en el hombre. *Dt Med Wschr* 92:830–832, 1967.

European Federation of Animal Health (FEDESA). Foot and mouth disease (FMD). Background information. Prepared for the International Conference on the Prevention and Control of Foot & Mouth Disease, Brussels, 12–13 December 2001. Available at www.fedesa.be/Medicines/FMD2.PDF. Accessed 10 January 2003.

Food and Agriculture Organization of the United Nations (FAO), International Office of Epizootics, World Health Organization. *Animal Health Yearbook, 1994.* Rome: FAO; 1985.

Fernández, M.V. Ultimos avances en vacunas contra la fiebre aftosa. *Bol Centro Panam Fiebre Aftosa* 8:1–14, 1972.

Fletch, A.L. Foot-and-mouth disease. *In:* Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals.* Ames: Iowa State University Press; 1970.

Gailiunas, P., G.E. Cottral. Survival of FMD virus in bovine hides. *Am J Vet Res* 28:1047–1053, 1967.

Gierloff, B.C., K.F. Jacobsen. On the survival of FMD in frozen bovine semen. *Acta Vet Scand* 2:210–213, 1961.

Gomes, M.P., M.S. Söndahl, M.A. Martins, R. Casas Olascoaga, R. Alonso. Aplicación de la técnica inmunoenzimática (ELISA) para el diagnóstico de los virus de la fiebre aftosa y estomatitis vesicular en comparación con la prueba de fijación del complemento. *Bol Cent Panam Fiebre Aftosa* 55:15–19, 1989.

Hedger, R.S. Foot-and-mouth disease. *In:* Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals,* 2nd ed. Ames: Iowa State University Press; 1981.

Hyslop, N.S. The epizootiology and epidemiology of foot and mouth disease. *Adv Vet Sci Comp Med* 14:261–307, 1970.

Hyslop, N.S. Transmission of the virus of FMD between animals and man. *Bull World Health Organ* 49:577–585, 1973.

Karstad, L. H. Miscellaneous viral infections. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*, 2nd ed. Ames: Iowa State University Press; 1981.

Manninger, R. Enfermedades infecciosas. *In*: Hutyra, F.V., J. Marek, R. Manninger, *Patología y terapéuticas especiales de los animales domésticos*, 8.ª ed. Barcelona: Labor, 1948.

Mathias, L.A., E.C. Moreira, F.J. Rosenberg, J.A. Obiaga. Estudio serológico de fiebre aftosa en bovinos procedentes del Pantanal matogrosense, Brasil. *Bol Cent Panam Fiebre Aftosa* 41–42:3–8, 1981.

Meléndez, L. Aislamiento e identificación de virus de fiebre aftosa procedente de vesículas en la epidermis de un ser humano. *Bol Of San Panam* 50:135–137, 1961.

Mello, P.A., V. Astudillo, I. Gomes, T.C. García. Aplicación en el campo de vacuna antiaftosa oleosa e inactivada: vacunación y revacunación de bovinos jóvenes. *Bol Cent Panam Fiebre Aftosa* 19–20:31–38, 1975.

Odend'hal, S. *The Geographical Distribution of Animal Viral Diseases*. New York: Academic Press; 1983.

Organización Panamericana de la Salud (OPS), Centro Panamericano de Fiebre Aftosa. *Plan de acción a seguir en caso de un brote de fiebre aftosa*. Rio de Janeiro: Centro Panamericano de Fiebre Aftosa; 1966. (Publicación Especial 671).

Organización Panamericana de la Salud (OPS), Centro Panamericano de Fiebre Aftosa. Situación de los programas de control de la fiebre aftosa, América del Sur, 1992. *In*: OPS, *8.ª Reunión Interamericana a Nivel Ministerial, Washington, DC, 24–29 abril de 1993*. Washington, D.C.: OPS; 1993. (RIMSA 8/20).

Ouldridge, E.J., M.J. Francis, L. Black. Antibody response of pigs to FMD oil emulsion vaccine: The antibody classes involved. *Res Vet Sci* 32:327–331, 1982.

Pereira, H.G. Foot and-mouth disease. *In*: Gibbs, E.P.J., ed. Volume 2: *Virus Diseases of Food Animals: A World Geography of Epidemiology and Control*. New York: Academic Press, 1981.

Pilz, W., H.G. Garbe, W. Beck. Einige neue Falle von Maul-und Klauenseuche beim Menschen. *Vet Med Nachr* 4:224–229, 1962.

Pilz, W., H.G. Garbe. Weitere Falle von Maul-und Klauenseuche- MKS-Infektionen beim Menschen. *Zentralbl Bakteriol Parasitenk Infektionskr Hyg*. I Abt Orig A 198:154–157, 1965.

Rosenberg, F.J. *El conocimiento de la epidemiología de la fiebre aftosa con particular referencia a Sudamérica*. Rio de Janeiro: Organización Panamericana de la Salud, Centro Panamericano de Fiebre Aftosa; 1975. (Monografías Científicas Técnicas 5).

Rosenberg, F.J., R. Goic. Programas de control y prevención de la fiebre aftosa en las Américas. *Bol Cent Panam Fiebre Aftosa* 12:1–22, 1973.

Sadir, A.M., A.A. Schudel, O. Laporte, M. Braun, R.A. Margni. Response to FMD vaccines in newborn calves. Influence of age, colostral antibodies and adyuvants. *Epidemiol Infect* 100:135–144, 1988.

Salt, J.S. The carrier state in foot-and-mouth disease: An immunological review. *Br Vet J* 149:207–223, 1993.

Sellers, R.F., K.A. Herniman, J.A. Mann. Transfer of FMD virus in the nose of man from infected to non-infected animals. *Vet Rec* 89:447–449, 1971.

Wetterlein, W. Das Klinische Bild des Maul-und-Klauenseuche beim Menschen, aufgestellt aus den bisher experimentell gesicherten Erkrankungen. *Arch Exp Vet Med* 8:542–564, 1954. Cited in: Pilz, W., H.G. Garbe, W. Beck. Einige neue Falle von Maul-und Klauenseuche beim Menschen. *Vet Med Nachr* 4:224–229, 1962.

World Organization for Animal Health. Foot-and-mouth disease. Available at www.oie.int/eng/info/en_fmd.htm. Accessed 10 January 2003.

## HERPES SIMPLEX (TYPE 1) (1 [illegible]) [illegible]

### [illegible] ICD-10 B00.1
### ICD-10 B00.1 Herpesviral vesicular dermatitis

human herpesvirus, *human Herpesvirus* [illegible] .(2[illegible] 1 [illegible])

[illegible] subfamily [illegible] .Herpesviridae [illegible] Alphaherpesvirinae [illegible] nucleocapsid [illegible] 200 [illegible] 180 [illegible] 2 [illegible] 1 [illegible] 1 [illegible] 2 [illegible] *herpesvirus simie* [illegible] Hilliard *et al*.) 1 [illegible] 2[illegible] 1 [illegible] .(1989

[illegible] 2 [illegible] 1 [illegible] chorioallantoic [illegible] 1 [illegible] °40 [illegible] °40 [illegible]

.latency ([illegible]) [illegible]

[illegible]

[illegible] %90 [illegible] %70 [illegible]

[illegible]

[illegible]

owl [illegible] 1

[illegible] (*Aotus trivirgatus*)

[illegible]

*Hylobates*) [illegible] 84 [illegible]

[illegible] 6 [illegible] .(*lar*

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] (Smith *et al.*, 1969) [illegible] 84 [illegible] 16 [illegible]

[illegible] (Emmons, 1983) [illegible]

.(McClure *et al.*, 1972) [illegible] (*Tupaia glis*)

*Pan*) [illegible] 6 [illegible]

[illegible] (*Pan paniscus*) [illegible] (*trolodytes*

[illegible]

[illegible] 6 [illegible]

[illegible]

[illegible] (McClure *et al.*, 1980) [illegible]

[illegible] .2 [illegible]

[illegible]

[illegible] 12 – 2 [illegible] %10 [illegible]

[illegible] (Benenson, 1990) [illegible] latency [illegible] (sensitive [illegible]) [illegible] (Hirsch, 1991) [illegible] (blister [illegible]) [illegible]

[illegible] vidarabine [illegible]

[illegible] 7 – 4 [illegible]

[illegible] speckled [illegible]

[illegible]

[illegible] cytopathic [illegible] .(Berría, 1991) [illegible] M [illegible]

[illegible]

## ǓøǙƐþøǅǁƐ


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Berria, M.I. Familia Herpetoviridae. *In*: Carballal, G., J.R. Oubiña, eds. *Virologia médica*. Buenos Aires: El Ateneo; 1991.

Emmons, R.W. Earlier reports dealing with *Herpesvirus hominis*. [Letter]. *J Am Vet Med Assoc* 182:764, 1983.

Hilliard, J.K., D. Black, R. Eberle. Simian alphaherpesviruses and their relation to the human herpes simplex viruses. *Arch Virol* 109:83–102, 1989.

Hirsch, M.S. Herpes simplex virus. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

McClure, H.M., M.E. Keeling, B. Olberding, R.D. Hunt, L.V. Meléndez. Natural *Herpesvirus hominis* infection of tree shrews (*Tupaia glis*). *Lab Anim Sci* 22:517–521, 1972.

McClure, H.M., R.B. Swenson, S.S. Kalter, T.L. Lester. Natural genital *Herpesvirus hominis* infection in chimpanzees (*Pan troglodytes* and *Pan paniscus*). *Lab Anim Sci* 30:895–901, 1980.

Melendez, L.V., C. Espana, R.D. Hunt, M.D. Daniel, F.G. Garcia. Natural herpes simplex infection in the owl monkey (*Aotus trivirganus*). *Lab Anim Care* 19:38–45, 1969.

Smith, P.C., T.M. Yuill, R.D. Buchanan, J.S. Stanton, V. Chaicumpa. The gibbon (*Hylobates lar*): A new primate host for *Herpesvirus hominis*. I. A natural epizootic in a laboratory colony. *J Infect Dis* 120:292–297, 1969.


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## *HERPESVIRUS SIMIAE* ǈǐƨƑǚƨǆǁƐ ǈǐƨǤþǇǁƐ ǈƨǋþǐƻǁƐ

**ICD-10 B00.4 Herpetic encephalitis** Ǐ ƨǤþǇǁƐ ƵƑǅǒǁƐ ƒƑǇǂǁƐ **ICD-10 B00.4**

·B ǤǚèǺǺÊǺǚǟ ǤǚÊǟǺŢǟ ǦèşƘǺǚǺǟ ʔşǼǶǚǟ ǕB âşƘǺǚǺǟ ʔşǼǶǚǟ ˙ğǺʐåǟǺţǟ

ǨȐǺǕ ȣǺǶǨ ƀøǪǚǟş Ǖ*Herpesvirus Simiae* *ǤèǺǺÊǺǚ ǤǚÊǟǺŢǟ* ǦèşƘǺǚǟ ˙ğǺǤǤÊǚǟ

ğǺèşƘǺǚǟ ǤǮǚÔʐ ǑəǺÔǹ ȯʐǧ ǑǚòǺǺǪǚǟ ȸŋ ǼǺÂţ ·*Herpesvirus* B *ǤÊǟǺŢǟ* ǦèşƘǺǚǺǟ

·Herpes Simplex ǛǚÊǤǚǟ ȄǟǺŢǟ ˙ǑÔʐ ǺŢǪǟ ˙ǤǚÊǟǺŢǟ ǤǺşǺǺǚǰǟ

*ȭǺǑţǟ* ȄǺǅǅ ȸŋ ğǺŋǼǑţǟ ƙǟ ƀǶǤǚù ǑǑǏǟ ʔşǼǶǚǟ ǫǼƠ ˙ŽǟǺȣƨǟ ţâʐǪǚǟ

ǤǚƧʐţǟ ǳǺǺǺǚǟ ǑÔʐ ȯŸǹ åǟåǺǺ ôǺţǟ ţʐęş ǰǕ ǼĿʐǐ ˙ǼǺŢǟ Ž ·ǺǚèǕ Ž *Macacca*

*ǤÊǟǺŢǟ ǦèşƘǺǚǟ* ʒŋ ǦǑǚǪş ǤǺǼȐǪÊŋ ǦęŸǶǟ ǑÔǪǺ ɃǾǚǟş ǕSA-8 âşƘǺǚǟ åǺǺǪèǟ ·ȻǼǶǟş

(*Cercopithecus aethiops* *ƀøǟʐǚǪǰǟ ǳşåǺǚǟ*) ǤǚǑǺǺʐǕ ǒǟǺȐǹ ȄǚǪǺÊǪ ȸŋ *ǕǤèǺǺÊǺǚ*

[illegible] (*papio* [illegible]) [illegible]

[illegible] 25 [illegible] 1934 [illegible] 1957 [illegible] 1987 [illegible] 1973 [illegible] 1989 [illegible] (Holmes *et al.*, 1990) [illegible] (CDC, 1989) [illegible] 1991 [illegible] (Weigler, 1992) [illegible]

[illegible] %20 [illegible] %10 [illegible] (*mulatta* [illegible]) [illegible] %100 [illegible] %90 [illegible] (*M. cyclopis* [illegible]) (*M. arctoides* [illegible]) [illegible] (*M. radiata* [illegible]) (*M. fuscata* [illegible]) [illegible]

[illegible] %11.2 [illegible]

БÀƤqä ǫşǼΣä ȷÀõ ·üÎÀţä ȷÀÒŋ ÒƩ ÀŧÆ ÀŋÜ ·ğäÀè 3 ÀŁÀŧ3 ǴGöÜ ÀŋǼÀ3 ℁ ÛƙÔöä Ž ţƺÀöä ÈÀφ ƙä %16.6ş ÛǼÀTä Ž ǥøƺèüţä ǦÆèƺÊÀÀöä ğÀõÀÒţä ƙä %4.2 ğÀÆÛȞţä ƘÊÀǩ ǼȞÔöä ȸŋ ·(Rawls, 1979) ǼÀŸÀÀǩş ƙGÆŸÆÀöä ȸŋ irus õÀÒţä ƙä %35ş Hutt *et al*.,) ğäƎǪÅţä Ž ǦŋǼÀǪÊţä ǦÀŸǪÅţä ǦÆDZƺöşƘÊöä ȧÀÛöä ǼGÊä Ō̄öæş ÛÀGöÀǭ ǦÆƺäƺÊöä ǼDZş ·ƙǪÆÒÀÀŋǰ ä şÜ ÀÆÕÀÀƺÜ Ž ȷÀÊφqä Ƙǭ ğÀŋǼÕţä ƙä ǦÆȞÆGÛöä ʔşǼȞöä ǼDZƺǩ Ɓ ·(1981 ·(*Papio* ţäƺφÜ) ğÀφƺäÀƨä Ž ǦÆèÀÀÊÀöä ǦÆÊäÀTä ǦèşƘÀöÀä ǦŸÔöä ĘÆǪƺöä SA-8 âşƘÀöä

– ȷÀÊφqä Ž ǼDZƺǩ ÀŋǼÀ3 – *ǦÆèÀÀÊÀöä ǦÆÊäÀTä ǦèşƘÀöä* ǫǼȞǰ ·ȷÀÊφqä Ž ôÀţä ʔǼö ȷÀõş ÛǥÀÆΣä Ǽǩę ʔŸ3 ÙÕƺ ʔȓÀţä ȸŋ %15 ʔÕGÀ ǬÆǵ ÛǥƘGõ ǦDZøǼö ÀŸÀÀę ÀȓÀŋ ÛâşƘ ÀŸö ÀǼDZ ÀǼȞǪÊŋ ȷÀÊφqä ȷƺÒÀ ɍÜ ŌŧǪǂä ȸŋ ·(Rawls, 1979) ǦGÔ3 ŌÆäÀÕ3 3Æŧƨä ·ÀTÀŋ ǦÀÕŸǪÀ ɄøǪöä ğÀȐȞöä åǼ3ş ÀTȞŋ ŌŋÀȞǪÀ ɄøǪöä ÈÆφÀÊÀöä ȸŋ ƘGÒöä åǼȞŸö ÀȞGǩ Ō̄öæş ɄøǪöä ǦȞÀǩÀţä ǦǩÀŋqä ğɍǼȞŋ ǼGÊä ƙòÀǹ ÀǼòÀǩş ÀŋÀŧǪŁä ʔşǼȞöä ĘȞǪÊǩ ·Õõ Õ3 ·ǦÀÀÀè ÀŁÀŢŋ ȷşÀŢŢÀ ȸÀǾöä îÀÅìǰä Ǽ3 ǼŁÀÎǩ

5ş ȳÀÀÜ 5 ƙä dzşäÀǪÀ ¢φÜ øǼę ÙÕƺ ÛǦęǼä ȣşÀȞŋ Ƙǭ ǦφÀȐΣä øşå ȯƺü ȷÜ ǈǭøş Ōòƺơ ǫǼ3 ǼÕƺ ÛêǼǹ şÜ ǦȐ3 ȸ3 ʔşǼȞöä ǨŧƟ äǽÜ ·ôÀȞǪöä Ǩęş ȸŋ ÀöǼä 3ÆäÀèÜ ɄÊäÀŁ ǴÀü ǫǼ3 Ɓ ·ǦÆÀŧŸöä Ǧ3şǰ ä āÀTǪöäş ǦÆÀŧŸöä ǼȞȞöä āÀTǪöä ǦƺŸǪÀ dzÀƨä ȷÀÒŋ ǈŧȞǪţä ôÀţä ÀÆǭ ·(1990) *ǥǼƺøş* Àţƺŀ ÀTÀòş ɄøǪöä ǦȞäøǰ ä ğɍÀΣä ȸŋ ǦöÀǵ Ž ŌÒÎöä âÀǪǵäş ɄŸÔÀƺΣä ȳƺȞŸGöä āÀTǪöä ǫǼ3 Àŧõ ÛòÀTèÜş ɄøÀÛä Ɓüş ȷǼ3ǭş ţäǼòş ʔŧШ ÛâÀÊǵqä ȳǼ3 şÜ ɄŸȐ3 Ɓüä ǦGÔȞöä ô äÀ3ǰ ä ÛǼGǩ ·(Rawls, 1979) Ƀƺəø āÀTǪöäş Бƺä ɃØöäş ÛƙÆŸÀÊöä ƙƺÀÛöä Ž ƺǹø ŌŸì øƺÛǪÀ Ż Û3ŸGöä ǦäƺȞòş ǦÆäÀDzǵ ğÀDzÀÎǩ øäşåş ğäÀŁÀŢǩ ȳşǼǩ Ǽę ·ǦÀÀTÀöä Ž ɄÊÀÀǩ ÙŁş БÜ ɃåüÀş øǼÔöäş ƙÀƺŸȞöä ƙƺÀÛöä БÜ ÀÎǪÀÀ ǦÆDZƺöƺǩÀGöä ÀÆDZƺöƺǪÊÆTä ·ÀŋƺÀ 21 – 3 ȸŋ ţÀÅÀöäş ȟÀŋǼöä āÀTǪöä şÜ ȟÀŋǼöä āÀTǪöä ǼÀ3 ǦŧŧȞǪţä *ǦÀÀÎGöä ǦÆÊäÀTä ǦèşƘÀöä* ʔşǼ3 Ž ǥåƺDZƺţä ŌŸǪö ǦòÀÎŋ (ǦÆȓÀţä ğÀÆDzÊÀöä) ǼGÒöä Ž ǦÀÀŸ øüäş Ûţ ÀÅÀöä āÀTǪöäş ÛȟÀŋǼöä āÀTǪöä ȸ3 ǦƤÀφ ğÀƺÜ 3ŋ ÛòÀÀüǰ ä ·ǦÀÀŢÒöä åǼ8öäş ǦÆÀŧŸöä ǼȞȞöäş ȯÀȞÛöäş

Acyclovir [illegible]
[illegible]
[illegible]
.(Weigler, 1992) ganciclovir

[illegible]
332 [illegible] 14.400 [illegible]
[illegible] .(Keeble, 1960) [illegible]
[illegible]
[illegible]
[illegible] 14 – 7 [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

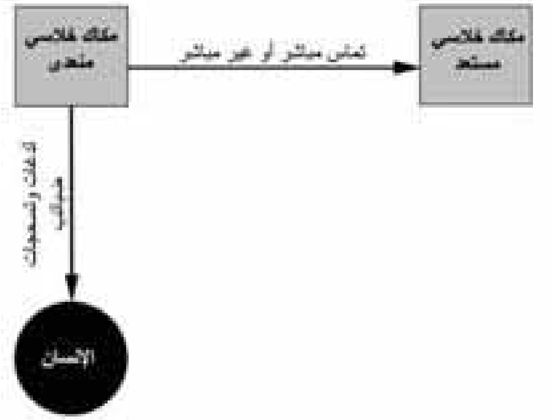
[illegible] (*M. fasciciluris* [illegible]) [illegible]
[illegible]
[illegible]
[illegible]

capuchin [illegible]
[illegible] marmoset [illegible] (*Cebus* [illegible]) [illegible]
[illegible]

Ž gliosis ȧÀäÆöäş ğÀφζĠÔĤöä ÀY ÆŁÀÎΛ Æę ·ʔζÀöä Ž ĞŸȶϘÎŋ ÀŋÀÊDZÜ øζÛǩ ɄøϘöäş ·ğŸÔΛζΣä òζǵ ɄÀţ dzÀÎǩøä БÜ ĞζÀȓÜ ÜɃÂõÀţä ɄøĠÔĤöä äÀȾɜä

(ɄèŸʅä õÀÒţä) ɄèζÊΛÀöä õÀÒţä :(15 ŌÒÎöä) ȯÀÕϘφɟä äÀüş ʔşÆĤöä øÆÔŋ ţäζφÜ ŌÒÎǩ Æę ·ɉÀÆĤĠÛöä ɉÀÆÊɘÀöä ɉÀʒåζϘÊţä ÀƵ (ÿÀɫä õÀÒţä) ÔΛØöä ÔΛζÛöä õÀÒţäş ÀȒΛÜ ĞΛÀÎæ ĞöÀǵ ğÆDZş ·ɉÀÊφqä ʔşÆĤö ÀøÆÔŋ õÀÒţä ȄΛDZ ȸŋ ȄɆÀÊΛöä ȸŋ ʔÀǹÜ ȸŋ ʔşÆĤöä ǨŸÕϘä ·ĞÆèζÊΛø ğÀõÀÒŋ ʒŋ ȊÆĤΛ ɄÕΛÀζÜ ÀȒǹÜ ȃÀΛÊφ Ȓʒ ȸʒ ĞƤÀφ şÜ ğÀȒĤöä şÜ ãÀĤŸöÀæ õÀţäş ÿÀĤÛöä ϙζŸǩş ÛÀȉÀĠţä ȃÀȶϘöÀæ ȄɆÀÊΛŸö ğÀȶĤϘÊŋ ȯŸǹ ·ÆɘÀĠȒöÀæ Àŋøş ȇşÆʅä

·ȯÀÕϘφɟä ĞÖŸǵ - ĞÆèÀÀÊΛöä ĞÆÊæÀȚä ĞèşKÀöä :15 ŌÒÎöä



ÜȃÀΛÊφ ȃÀĤŸæ ĞΛÆŸDZ ĞDzɄè ϙζŸǩ ȸŋ şÜ ȃÀΛÊφ ĞȒʒ ȸŋ ʔşÆĤöä ɉÀÊφqä ȖÕϘŸΛ ȄɆÀÊΛöä dzÀÛǩ ·ɄÀφɟä ÿζĤĠöä şÜ Ƶφɟä ĞȶɄϘŸţä ȯŸǹ ȸŋ ŌǹÆǩ ÆəÀĠȓ ƎȜ Àŋøş ğɫÀǵ ϙÆƠ Ɓ ȁÆÀţ ȴȾÀΛ Ɓ ·ĞÆŸèÀΛϘöä õÀȒʒɟäş ĞȶɄϘŸţä ğäàÀÀŋş ȃÀĤŸöä Ž ȃşKÀöä ·õÀÒţä ȄΛDZ ȸŋ ȄɆÀÊΛöä ʒŋ ÀĠÕÀɖ ÀȉÀĠŋ ȃÀϙ ʔŸʒ ɉÀÊφqä ɉζÒΛ ǬÆǵ ÜÀÆèÜ Ž ĞΛÀÎæ ĞȶəŸţä ĞÆÔƐÅÎϘöä ğäşåɟä ÒÕφ ÆĞÊæ ÀÆϙ Ɓ ÀȾÀÒö ğɫÀǵ õÀÀŁ ɉζÒǩ Àŋø :Õõ ʔŸʒ Ğʒ øÀŋ ɃζϘʒ flask ȧøşå ȴÛƠ ÀŋÆÀʒ ĞȓøÀʒ ĞΛƎϘƲ ʔşÆʒ ǨϘÆǵ ·(Weigler, 1992) ǨĤȓş :ɉÀÊφÜ БÜ ɉÀÊφÜ ȸŋ ȯÀÕϘφɟä ȸŋ ȖÕζ ǥÆǵäş ĞöÀǵ ȣÀĤǩ ·ȃÀΛÊφ ĞÆŸÒö ĞÆDZÆÊφ

(CDC, 1987; Holmes *et al.*, 1990)

3 … 138 … 21 … 159

(Holmes *et al.*, 1990)

*in situ*

(Weigler, 1992; Scinicariello *et al.*, 1993)

cytopathic

(4

dot immunobinding

psoralen

Heberling)

.(and Kelter, 1987

SA-8

%50

.(Kalter *et al.*, 1978; Hutt *et al.*, 1981)

(Boulter *et al.*, 1980)


Boulter, E.A., B. Thornton, D.J. Bauer, A. Bye. Successful treatment of experimental B virus (*Herpesvirus simiae*) infection with acyclovir. *Br Med J* 280:681–683, 1980.

Boulter, E.A., H.T. Zwartouw, B. Thornton. Postexposure immunoprophylaxis against B virus (*Herpesvirus simiae*) infection. *Br Med J (Clin Res Ed)* 283:1495–1497, 1981.

Heberling, R.L., S.S. Kalter. A dot-immunobinding assay on nitrocellulose with psoralen inactivated *Herpesvirus simiae* (B virus). *Lab Anim Sci* 37:304–308, 1987.

Holmes, G.P., J.K. Hilliard, K.C. Klontz, *et al.* B virus (*Herpesvirus simiae*) infection in humans: Epidemiologic investigation of a cluster. *Ann Intern Med* 112:833–839, 1990.

Hunt, R.D., L.V. Melendez. Herpes virus infections of nonhuman primates: A review. *Lab Anim Care* 19:221–234, 1969.

Hutt, R., J.E. Guajardo, S.S. Kalter. Detection of antibodies to *Herpesvirus simiae* and *Herpesvirus hominis* in nonhuman primates. *Lab Anim Sci* 31:184–189, 1981.

Kalter, S.S., R. Hutt, J.E. Guajardo, R.L. Heberling, T.L. Lester, L.C. Pleasant. Serodiagnosis of herpesvirus infection in primates. *Dev Biol Stand* 41:235–240, 1978.

Keeble, S.A. B virus infection in monkeys. *Ann NY Acad Sci* 85:960–968, 1960.

Keeble, S.A. B virus infection in man and monkey. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain: Proceedings of a Symposium Organized by the British Veterinary Association and the British Small Animal Veterinary Association, London, June 1966*. Oxford: Pergamon Press; 1968.

Kissling, R.E. Herpes virus. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Love, F.M., W.C. Stone. Virus B infection. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Perkins, F.T. Precautions against B virus in man. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain; Proceedings of a Symposium Organized by the British Veterinary Association and the British Small Animal Veterinary Association, London, June 1966*. Oxford: Pergamon Press; 1968.

Rawls, W.E. Herpes simplex virus types 1 and 2 Herpesvirus simiae. *In*: Lennette, E.H., N.J. Schmidt, eds. *Diagnostic Procedures for Viral, Rickettsial and Chlamydial Infections*, 5th ed. Washington, D.C.: American Public Health Association; 1979.

Scinicariello, F., R. Eberle, J.K. Hilliard. Rapid detection of B virus (*Herpesvirus simiae*) DNA by polymerase chain reaction. *J Infect Dis* 168:747–750, 1993.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). B-virus infection in humans: Pensacola, Florida. *MMWR Morb Mort Wkly Rep* 36:289–290, 295–296, 1987.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). B virus infections in humans: Michigan. *MMWR Morb Mort Wkly Rep* 38:453–454, 1989.

Weigler, B.J. Biology of B virus in macaque and human hosts: A review. *Clin Infect Dis* 14:555–567, 1992.

Weigler, B.J., D.W. Hird, J.K. Hilliard, N.W. Lerche, J.A. Roberts, L.M. Scott. Epidemiology of cercopithecine herpesvirus 1 (B virus) infection and shedding in a large breeding cohort of rhesus macaques. *J Infect Dis* 167:257–263, 1993.

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## ILHEUS FEVER

ICD-10 A93.8

**ICD-10 A93.8 Other specified arthropod-borne viral fevers**

B *Flavivirus* .Flaviviridae

368 (%21) 76 .(Prías-Landínez *et al.*, 1968)

oncolysis

(*Cebus*)

*Aedes* ... *Psorophora*

*Ferox* ... *A. serratus*

Clarke, D.H., J. Casals. Arboviruses: group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Fernández, A.S., N.E. Mettler. Virus Ilheus, presencia de anticuerpos en bovinos de la provincia de Buenos Aires. *Vet Argentina* 2(13):282–285, 1985.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and

Hygiene; 1985.
Prias-Landinez, E., C. Bernal-Cubides, A. Morales-Alarcón. Isolation of Ilheus virus from man in Colombia. *Am J Trop Med Hyg* 17:112–114, 1968.
Prier, J.E. *Basic Medical Virology*. Baltimore: Williams & Wilkins; 1966.

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## INFLUENZA

**ICD-10 J10.1**

**ICD-10 J10.1 Influenza with other respiratory manifestations, influenza virus identified**

Grippe

Orthomyxo- .A .B .C .viridae

.(N) neuraminidase (H) hemgglutinin .(WHO, 1980) (N9 N1) 9 (H14 H1) 14

A (2) (C B A (1) (3) A (6) (5) (4) 1963 duck A .A/duck/Ukraine/1/63 (H3N8)

100

[illegible] (M1 [illegible] M2) [illegible] (M) [illegible] (NP) nucleoprotein [illegible] M1 [illegible] helicoidal [illegible] A [illegible] A [illegible] B [illegible] Fenner *et al.*,) [illegible] (1993.

[illegible] H [illegible] N [illegible] H [illegible] N [illegible] 100 [illegible] (Shortridge, 1982). [illegible] A [illegible] A [illegible] Phylogenetic [illegible] (Webster *et al.*, 1992). [illegible] (N9 [illegible] H14 [illegible]) [illegible] B [illegible] C [illegible] B [illegible] C [illegible] 15 [illegible] 1981 [illegible] – [illegible] – [illegible] (Gno *et al.*, 1983). [illegible] (Kawano *et al.*, 1978; Mannguerra *et al.*, 1992). [illegible] 1989 – 1988 [illegible] 134 [illegible]

[illegible] %32 [illegible] C [illegible]
*Vibrio* [illegible]
[illegible] *cholerae*
[illegible] A [illegible]
[illegible] C/Ann Arbor/1/50 [illegible]
[illegible]
[illegible] .(Homma, 1986) [illegible] 10 [illegible]
[illegible] B [illegible]
[illegible]
1.030 [illegible] (%0.1) 1 [illegible] B [illegible] 504 [illegible] (%3.2) 16 [illegible]
.(Kawano *et al.*, 1978) [illegible]

[illegible] A [illegible]
A [illegible] .(Kaplan, 1982) [illegible] H [illegible] N [illegible]
[illegible]
[illegible]
[illegible]
[illegible] .(Laver *et al.*, 1984) [illegible]
[illegible] .A [illegible] B [illegible]
[illegible] C [illegible]

[illegible]

[illegible]
[illegible]
[illegible] .A [illegible] (1968, 1957, 1918 [illegible])
A [illegible] A [illegible] B [illegible]

[illegible] 1986 – 1985 [illegible] B [illegible] 1969 – 1968 [illegible] B [illegible] (H3N2) A [illegible] (WHO, 1987) [illegible] C [illegible]

[illegible] 1919 – 1918 [illegible] H1N1 [illegible] 21 [illegible] H3N2 [illegible] 1889 [illegible] interim [illegible]

[illegible] %40 [illegible] %15 [illegible] (Flu [illegible]) H2N2 [illegible] 1958 – 1957 [illegible] 70 [illegible] 5 [illegible] %30 [illegible]

[illegible] %70 [illegible] 62.000 [illegible] 1958 – 1957 [illegible]

[illegible]) H3N2 [illegible] 1969 – 1968 [illegible] (A/Hong kong/68 (H3N2) [illegible] 1977 [illegible] 27.900

H1N1 H3N2 H3N2 39 9 H1N1 (Knez, 1991) 6 – 5 (Betts and Douglas, 1990) 9 5 4 12 1994 – 1993 Flu 3.963 3.959 (%99.9) A A B B (H3N2) A (H1N1) A 1994 – 1993 CDC,) (H3N2) A (1994 1994 – 1993 A/Beijing/32/92 A/shangdong/9/93 A

[illegible] (H1N1) [illegible] H1N1 [illegible] H3N2 [illegible] A [illegible] H1N1 [illegible] Dea *et al.*,) [illegible] (Webster *et al.*, 1992) [illegible] 1918 [illegible] (1992 [illegible] 1919 – 1918 [illegible] (H1N1 [illegible]) [illegible] (Kaplan, 1982) [illegible] 1919 – 1918 [illegible] 1919 – 1918 [illegible] H1N1 [illegible] 1968 [illegible] 1979 [illegible] 1976 [illegible] (Fenner *et al.*, 1993) [illegible]

%33 [illegible] %25 [illegible] 7 – 6 [illegible] (Easterday and Hinshaw, 1992) %45 [illegible]

ȣäÀUä ÆĿζì ·gøζζÅȣÀèş ŋφζõ ŋφζĿş ƙÔöä ȸŋ (Ǝöä) ƟÊŀəÀöä ŏÂƨä Ž ǦÀüζϘŋ Æęş Û(Schild, 1981) 1977ş 1930 ƟŋÅȝ ƙä ǦÀÀÂøÀʅä ǦöÂøÀöä âşƘζ Ž ɃÆȒϘÊŋ ȳÅȝ ǦÀÀÎǦöä ǦHəÅƨä òƳǺζ ·ÀÀäÀÀʅä Ƃǚ ÀÎǦöä ȸŋ ŌÕϘÀǩ ȷǚ ʔşÆȞŸö ȸÒŧţä ȸŋ ȼφǚ ƙǦǩ 139 ȸŋ ȷäζÀÀǩ Ž ǙŀŧÀöä äØĿ ȸŋ ǦÀóæ ğåÀÀϘèä ÛH3N2 ǙŀŧÀöä ȸȝ ǦƤÅÀöä 1969 – 1968 ÅφäζĿǵ 276 ȸŋ ǦÀóæ 11 ğåÀÀϘèä ÛȼæÅÎŋ ŌÒÎæş Û1969/12 Ž ÅȾÔHζ ʔÀDZ ÅÀÀÂøÀǹ ÀÀäÀÀʅä Ž ɃÀÎǦöä ǙŀŧÀöä äØĿ åζDZş ǦŀèşƘÀöäş ǦĿDZζöşƘÊöä ğÅèäóÆöä ǨϘǦϘǚ 1970/1 Ž ɃøäøØöä ȻØĿ ǨφÅõ ·ʔÀǹɟä ȷäÆŸǦöä ȸŋ ÆÀÆȞöäş (ƙÔöä) ŋφζõ ŋφζĿş ǵÆHəϘţä ğÀÀɼζöä Ž ȒHæ ğÀȾşǚ ·A/Hong Kong/68 (H3N2) ⁚ǦÀÀÎǦöä ƟəÆǦöä ǙŧÀöä ǦÀóØö ǦöÅÎŋ Ž ǦÀŀÅǹ ǦŀȓäÀŋǚ ÅȾ ƟøϘöäş H3N2 âşƘÀö ǦÀÆȒϘÊţä âşÀȒŸö ÅŀöÅȝ ÅóÅÎϘφä ğÅèäóÆöä Û1976 ȳÅȝ ŋφζõ ŋφζĿ Ž ÀÀäÀÀʅä ȸŋ ÅȒÀǚ åÀÀϘèä âşƘÀöä ȷǚ ǦζÀȞŋ ȴȾţä ȸŋ ·ÀÀäÀÀʅä H3N2 âşƘÀöä åäÀÀϘèä ƘÎÀ Æę ·ɃÀÎǦöä ţζÀöä ȸŋ ȼəÀÀϘǹä ȸŋ ǵÆÀÆȝ ğäζÀè ÆȞæ Ȭöæş Ž ÀÀäÀÀʅä ƙä ÅÀüζϘŋ ǴǦòǚ ȼφǚ Ƃǚ ǦÀÀÎǦöä ǵÀȾŧƨä Ž ȷäøşÆöä ȸȝ ȼÅęζǩ ÆȞæ ÀÀäÀÀʅä Ž Shortridge et) ȷÅÊφqä Ƃǚ Ęǵɼ òÅÕϘφɼ ţåζϘÊŧõ ȳÆƩ Æę ţζÀöä äØĿ ȷüæ Ɵǵζ Àư ÛÀŀèǕ H3N2 ɃÀÎǦöä âşƘÀöÀæ ʔşÆȞöä ÅȾŀζ ǨϘÆǵ ƟøϘöä ʔÀǹɟä ȸõÅŋɟä Ž Åŋǚ ·(al., 1977 ȸÒÀ ȴŸζ – (Pérez Breňa, 1980) ÅŀφÅǦèǚş (Wallace, 1979a) ɃäşÅĿ ⁚ŸǯŋĿ – ÀÀäÀÀʅä Ž Ž H3N2 âşƘÀöä ȝȒǹ ·ǦÀÀÂøÀʅä ǵÀȾŧƨä Ž åζDZζŋ ǙŀŧÀöä äØĿ ȷǚ ğÅǦϘǚ ÅÀÒư ÛA/Hong Kong/68ƟøəÆǦöä ǙŧÀöä ǦÀóØæ ĘŸȞϘÀ ÅŧŀζǦÀÆȒϘÊŋ ğäƘȣǩ Ƃǚ ǦÀÀÎǦöä ǵÀȾŧƨä âÀęǚ ÛȷäøşÆöÀæ ğÀŧϘèä ƟøϘöäş ÛÀÀäÀÀʅä Ž H3N2 ȸŋ ǦÀÀÎǦöä ɃøäøØöä ǨφÅõ ƙǵ Ž ǨϘǦϘǚ ·ÅÀǹúŋ ğÀȾşǚ ƟøϘöä ǦÀÀÎǦöä ɃøäøØŸö ÅȾÀŋ ǦöæÅÊöä ɃøäøØŸö ɃÆȒϘÊţä úÀÀȾϘöä Ƃǚ ǦöÅÎţä A/swine/Hong Kong/3/76 ȷǚ oligonucleotide ÆŀǩζŀŸõζÀöä ŌŀŸę map ǦÛÀÀǹ âşƘζ ȝŋ ƟĿ Àư (ÅüÅǦǩøä) ÅæÀę ÀǯõǚA/Hong Kong/68 ȸŋ (ǦŀəÆǦöä) Ǧŀöşɟä ɃøäøØŸö Æǵǚ ȷǚ ÆDZş ÆÕö ⁚Ȭóæ ȸŋ ÀǯõǚŌæ ·1976 òƳǹ ǦÀÀÎǦöä ǵÀȾŧƨä Ž øäå ɃØöä H3N2 ÆŀǩζŀŸõζÀöä ŌŀŸę ǦÛÀÀǹ ÅȾ (A/swine/Hong Kong/4/76) ÀÀäÀÀʅä ȸŋ ǵåÀÀϘÊţä ɃøäøØöä ǨφÅõ A/swine/Hong Kong/3/76 ȷǚ ǰϘÀϘèä Æęş ·ǵÀòÅȞŋ ǦÀÀÎæ ɃøäøØö ƟøϘŸö ǦöÅÎŋ òÆǦǩ ȷşå ǦÀÆȒϘÊŋ ğäÀÀÛö ȝȒǹ ɃØöäş Û1968 ȳÅȝ ɃÀÎǦöä âşƘÀŸö ÅöÅÎŋ ŸŋÅȝ

.(*et al.*, 1982

(1980) recombinant (H1N1) H3N2 H1N1

H1N1 H1N1 1979 22 .(Pensaert *et al.*, 1981) H3N2 8 1984 A/Port .(Haesebrouck *et al.*, 1985) Chalmers/1/73 (H3 N2) H1N1 %2.3 H3N2 303 %32.2 3.701 .(Sanchez and Vicente, 1984) 1983 – 1980 1983 %31.4 H3N2 .(Hirano *et al.*, 1985)

1976 (H1N1) 1978 .(Hinshaw *et al.*, 1978)

(Dasco *et al.*, 1984) H1N1 32 4 8 (%76) 19 25 A/Wisconsin/3523/88(H1N1)
(Wells *et al.*, 1991) H1N1 %20 H1N1 (Webster *et al.*, 1992) 11 7 H1N1 11 Wright) dot – Blot 10 (*et al.*, 1992

3 (H1N1) 1956 A A/equine/Prague/1/56 (H7N7)

[illegible] H [illegible] (H7N7) [illegible] A/equine/Miami/1/63 (H3N8) [illegible] C [illegible]

[illegible] .90 [illegible] %60 [illegible] 1963 [illegible] C [illegible] van) 1979 – 1978 [illegible] A/equine/Miami/63 .(Oirschot *et al*., 1981

[illegible] A/equi 2 (H3N8) [illegible] .(Webster *et al*., 1992) [illegible] switch [illegible] H7N7 [illegible] H3N8 [illegible] (Webster *et al*., 1992) [illegible] A/equi 2 [illegible]

[illegible] A/Hong Kong/1/68(H3N2) [illegible] 1895 [illegible] 1889 [illegible] A/equine/Miami/1/63 [illegible] 15 [illegible] 5 [illegible] 10 [illegible] (Beveridge, 1977) [illegible]

[illegible] N9 [illegible] N1 [illegible] H14 [illegible] H1 [illegible] A [illegible] (Webster *et al.*, 1978) [illegible] (Webster *et al.*, 1992) [illegible] Tern [illegible] (*Sterna hirundo* [illegible]) [illegible] (*Puffinus pacificus*) shearwater [illegible] (H7N7 [illegible]) A [illegible] 1984 – 1983 [illegible] 11 [illegible] 10 [illegible] 125.593 [illegible]

1929 [illegible] 3 [illegible] .(OIE, 1983) H5N2 [illegible] (1984. [illegible] .(Schild, 1981; WHO, 1981) [illegible]

[illegible] 1975 [illegible] .1929 [illegible]

[illegible] A/FPV/Dutch/27 (H7N7) [illegible] A/chicken/Pennsylvania/1370/83 (H5N2) [illegible] 138 [illegible] 1994 [illegible] 11 [illegible] rhea [illegible] 41 [illegible] crane [illegible] cassowary [illegible] (1994/4/20 [illegible] H7N7 [illegible] H7N1 H5N1 [illegible] H5N3 [illegible] H5 [illegible] H7 [illegible] avirulent [illegible] Easterday and Hinshaw,) [illegible] .(1991

[illegible]

[illegible] cloaca [illegible] C [illegible] 4 [illegible] 46 [illegible] (43) [illegible] H-N [illegible] Shortridge,) [illegible] .(1982

[illegible] (H1N1) [illegible] (Ottis and Bachman, 1980) [illegible] .(Mohan *et al.*, 1981) [illegible] A [illegible] (*Balaenoptera acutorostrata*)

[illegible] H [illegible] (*Phoca vitulina*) [illegible] (*Callorhinus ursinus*) [illegible] 1980 – 1979 [illegible] %20 [illegible] (H7N7) [illegible] 1983 [illegible] %4 [illegible] H4N5 [illegible] Ferrets [illegible] (Lang *et al.*, 1981; WHO 1981) [illegible] Webster) [illegible] 33 [illegible] (*et al.*, 1981 [illegible] 3.000 [illegible] %100 [illegible] H10 [illegible] H10N4 [illegible] N [illegible] (KLingeborn *et al.*, 1985) [illegible]

[illegible] A/Hong Kong/68 (H3N2) [illegible] H3N2 [illegible] H1N1 [illegible] (Buonavoglia and Sala, 1983) [illegible]

[illegible] 3 – 1 [illegible]

[illegible] (Betts and Douglas, 1990) [illegible] Amantadine [illegible] rimantadine [illegible] .(Betts and Douglas, 1990)

[illegible]

H1N1 H2N2 H3N2 A

Gnotobiotic

(Dea *et al.*, 1992)

3 – 2

3 – 1 10 – 2

C (H3N8) C (H7N7) 1

%20

1984 – 1983 H5N2 (H7N7)

Murphy (1991)

ğÀŋȲȝ ɃǛ ȔĞöä ǼȝÀȚȚĶ Ɓ ÀȚȚȥş ÛäÆÀöÀǛ Ž ɄŋşÀöä ÕÀǼöäş ȔĞöä ƙä H3N8 ĞÈÌÀȥ ·ɄŋşÀöä ÕÀǼöä Ž ĞĦɌȑäş ĞÀÀÀè ôäÀȝǛ ōÀŁ ȷÀõ ƙǵ Ž ôÀȶȲö ƙä 1961 ȳÀȝ ĞÈÌÀȥ ǨǬǼǵ ȸÒö ·ĞÀÀÀè ǨƠ ĞÀƎöä øȥÛöä Ž ʔşǼȞöä ȷȥȮǩ Æę ȯǼĦŋ ȝŋ ÀÕÀÀȥǛ āȥÀDZ Ž (*Sterna hirudo*) (terns âøȥÀöÀä ȻĞÌ ɄəÀŋ ÀəÀǖ) ĞÀÌÀʅä ·ĞöÀΣä ĞǨÀŋɋ ȝÀǨÀŋ

âÀȶǬöä ȯȲǹ ȸŋ ȷÀÊǬǛ ƂǛ ȷÀÊǬǛ ȸŋ ȯÀÕǬɍä ϙǼƷ ·ȯÀÕǬɍä àÀǖş ʔşǼȞöä øǼÔŋ ȷǛ âşƘÀȲö ȸÒƺ Àȶõ ·ɃȥȲĦöä ɄÊÀǬöä ÕĞÊöä àÀǬơ ɄøǬöä Flügge ğäƘÛę Ǝȝ ÀÌÀĞȶä ȳÀǵáàɍäş ĞÕȲĦȶä ĞÀĞöä ÕȚÊǩ ·ʔǼȞÀŋ ÒÁÌ ğääÀȥüä ÄȝÀǼǵ ĞǫȥȲȶä ǻäȥȶä ĞüÀèȥä ÕÕǬÀÀ ÕÒÎä ĞȝȥǬş ÛǵáÀȝ ĞȒÀÅÀŋ ĞĞÊǬÒȶä ĞŋşÀÕȶä ·ɄȝȥÀöä ȔȶÀȲö ĞȝÀÀŋ ʔşǼȞöä Àȥȥǩ ·ȯÀÕǬɍä ÀȶĦöÀä ȳǼÕǬöä ȝŋ ĞȝÀÀȶä ǵǼȝÀÕöä ȝèȥǬǩ ·ƙ8öÀĞöä øÀĞÒöä ȸŋ ȯÀÀǖɉä Ž ĞŋȥƺǻÕęǛş ÛĘĘęǻ ȸŋ ʔøǬÀȝ ɃØöä ȝȶǬÕä ȷǛ ·ĞÀǼȒǬÊȶä ĞǵÀÀöä ȸŋ ĞÛĞǨÀŋ ğÀèşƘÀö ĘǵȲǬȶä ôÀȞǬöäş ·ğäȥÀè 4 – 3 ǵǼŋ ȔȶÀöä ÈÀÀö Õöæş ĞÀÀÕǩ ÀȶəäǻȒÀÅÀŋ ţȥęş ȻÀǼö ǵƘĞõ ĞÈÌÀȥ ğÀəÀæş Ž ƘĞõ ÀǬǛ ÀȚ ɄøǬöäş ÛǵǼȥäȥöä ĞöÀøÀöä âşƘȥ Ž ĞȚǵȲŋ ğäÀȶȶä ȽŁǛ ʔǼǵǛ ÄşÀȑ ǰǬÀ ÕöØæş ÛɃǼȒǬÊȶä ǼÈõÀǬöä ÀȚȥ ȯǼĞǬÀ ɄøǬöä ĞÕÀÀÛöä ɄŁ ÛɃÀÎĞöä ôÀȶä ɃǼȒǬÊŋ *drift* ǳÀÀÂøǬä ȯşɉä ·ğɍǼĞǬöä ȸŋ ȷÀÛƴ 8ÀȞǬèä ·ǵǼÀǼDZ ğÀÈÛƴş ǵǼÀǼDZ ÀȚş ɃØöä ǨęȥöäØÀŋ ȔȶÀöä Ž ĞÈèÀèǛ ǨÊÈö ğɍǼĞǬö âşƘÀöä ȝȒƩ ȻÈȥş ÛɄƶøǼǩ Ƙ8ò ƙȒǬÊȶä ǼǵǛ ȯäǼĞǬèä (ȸȶȒǬÀ) ȤÀǬÒÀ ÛɃǼȒǬÊŋ *shift* ȷÀƷà ·ɄøǬÀǯöäş ÛǵÀŋ ȯşɉ ȻȥÛA ȔȶÀöä ȸŋ ğÀèşƘÀöä Ž ÀǵȥȑşğɍǼĞǬöä ÀǯõǛ ǼȽÀÎǩ ·(H, N) ÀȶȚȲõ şǛ ƙĦɌÛÊöä âşƘȥ ȷÀõ ·ǼÀǼDZ ȔȤƴ ȟşÀä ǼĦä (ÄøÀÎǬǬä) ÄäÀǼǬŋä ÀǯõɉäĞəäȥƨäş ĞÀæşɉä ɄøǩǖǩşȳÀȝ Ž ·1956 ȳÀȞöä ʔøǬǵş ÛǵÀŋ ȯşǛ 8ÀȞǬèä ÀŋǼÀȝ 1933 ȳÀȞöä ØÀŋ ÄÀÎǬÀŋ H1N1 ĞĦəÀDZ ǼĞèş ÛĘäÀÊöä ȔȶÀöä ÕȚ Õǵş (H2N2) ÕŋÀõ ÕÒÎä ǼÀǼDZ ȔȤƴ ȟÀä :1957 ĞöÀǬöä ĞÀÊöä Ž ÀǹǛ ȔȤƴ ȟÀä ǪȤǵ Û1967 ȯȲǹ ÄɍÀȞȥ ȔȶÀöä äØŁ Ʉöä ·"ĞÀȥÈèǿä ĞöÀøÀöä" ƂǛ H1N1 ȔȶÀöä ǻÀȝ Ż ·ÄȒÀǛ ĞĦəÀDZ ǼĞè ɃØöäş A/Hong Kong/68 (H3N2) :ȥȽş A âşƘÀöä ȔȤƴ ĞÀDZÀÀȶä ğɍǼĞǬöä ȻØŁ ǨÀÒŋ ·ĞÀè 20 ȳäǻ āÀȡ ǼĦä 1977 ȳÀȝ øȥȚȚöä

[illegible] H1N1 [illegible] 1977 [illegible] 1981 [illegible] (H3N2) [illegible] (A/Brazil/78) H1N1 [illegible] (A/Bangkok/79) H3N2 [illegible] (Stuart-Harris, 1981) [illegible] drifts [illegible] shifts [illegible] A [illegible] A [illegible] A/Hong Kong/68 (H3N2) [illegible] (H) [illegible] 1968 [illegible] (H) [illegible] (N) [illegible]

Ǽĝäşş äăǼƗǼŋøăƺȦőä ȸŋ ğäǼȒǪÊŋ [9] ȸŋ Ǽĝäş ȸŋ ǦȦƗőƺǩ ȸŋ Ƶőüǫ Ȕƚƴ Ōõ ȷǕ ȦõØǫ ȷǕ Ž ǈŁȦÊǩ Ǽę ğȦǿäƺƗΣä ȷǕ ˙ǦŸǝȦŐőä ģȦȮȦőä Ǩȶȝå ǼŐő ·ǦȦƺŋǼőä Ǧòäȧőä ȸŋ ǼǼȒǪÊŋ [14] ȸŋ ǼǄƺ ɟ ɃǾőäş ǕB Ȕȶőä ȸŋ ɃȦÎǦőä âşƘȦőä ȷǕ ˙ǦŸǝȦŐőä ǦŐƗŐΣȦ БȦøȦőä A ƘǄ ǦƗƤ Stuart-Harris,) ǦƗȟÛÊőä ȻȦǼȒǪÊŋ Ž ǦǄȦȦŋ ğɟǼǦǫő ȝȒƸ ɟ ÛȦƗǿǼőä ğȦǿäƺƗΣä Ž ȦǝȦȚǿ ȻőƺŁ ǦƗǿäƺƗΣäş ǦȦȦÎǦőä ğȦèşƘȦőä ȸŋ ǞƗȉüǫőä ǦȦȚȦő ǦƗÊƗǝȦőä ğȦȓäǪȝɟä ɁǼĝǕ ·(1981 БǕ ğȦǿäƺƗΣä ȸŋ ȯȦŐǫɟä ȷǕş Ǖ(øåȦǿ) ȝǝȦȉ Ƙɖ ğȦǿäƺƗΣä БǕ ǦȦȦÎǦőä ğȦèşƘȦőä ȯȦŐǫǿä ȷǕ ØȦŋ ǼåƺǄƺŋ ôäȦǪȝɟä äØŁ ǼȞȦ Ɓ ˙Ōõ ɁŸȝ ·(Kilbourne, 1978) ƘǯȮä ģøǼǿ ȦǯõǕ ȷȦÊǿqä âŸȮőäş ǦƗȉȦţäş ȦȦäȦȦʅä БǕ ğȦÎǫǿä Ǽę ǦȦȦÎǦőä (H3N2) ŋǿƺõ ŋǿƺŁ ǦȦøǽ ȷǕ ǨǦǫǕ ȷǕ ȷǕ ȣşȦȞţä ȸŋ ˙ɁȦȵǕ ǦƗĝȦǿ ȸŋ ·1968 ǦȟǝȦǄ ǼȞǽ ƁȦȞőä ȸŋ ǦȦŸǪƯ őäȦǄǕ Ž øƺƗÛőäş ğɟȦĝ õȦȦŁ ȷƺȮǩ ǫǼȝ ȦŋǼȦȝ ȻǿǕş ÛȦǼǽǕ ȦǩäƺǪŋ Ƙɖ ȷȦÊǿqä БǕ ğȦǿäƺƗΣä ȸŋ ȯȦŐǫɟä ÛȦŐǽȦè ȦõǽȦȶõş ÛȦŋøȦò ÈƗő ţƺȦŸő Ƀȝƺȧőä ŌǝȦΣä ·ğɟȦĝ ǨǪǼĝ ȷǕ äØŁ – ǦŸƗŸę ǦȦƺǿȦǪ Ž ǦȶŐȦőä Ƙǽ) ǦȦȦȟǦőä ğȦǿäƺƗΣä Ž ǦƗǝȦǽş ǦƗȉȦƺ ǨǦǦè Ǽę ǦȦƘù ǦȦøǽ ȷǕ ȣşȦȞţä ȸŋ ǫƺǛ ğǕǼǽ ·ǦǽȦǄǕ ȷşå ǦŸȦèǰä ȸŋ åǼȝ ɁŐǦȦ ·(ɃåȦȚä ȔƗƚä Ž ğƺΣäş ģǼȟǪţä ğȦȦɟƺőä ğȦƗǝȦǽş Ž ǦȟȓäşǦƗƵǕ ğäǽ Ƀȴş ÛǦƗţȦȞőä ǦȟȎőä ǦȶȚȦŋ ǦȦȝȦǽ ţƺȓƺţä äØŁ ȯƺĝ ģȦõȦŋ ·ȦȚȦŋ ǦȦęƺőäş ģǼƺäƺőä ǦőȦøȦőä

ȦƗǿǼőä ğȦǿäƺƗΣä Ž A Ȕȶőä ȸŋ ģǼƺäƺőä ǦőȦøȦőä ğȦèşƘƺ ȷǕ ˙ǦŸǝȦŐőä ǦŐƗŐΣä БǕ ǦƺȦȓǕ ǨǿȦõ ğɟȦĝ õȦȦŁ ÛǦȦÎǦőä ǦȟǝȦɞä ğȦÛƚƴ (üÎȦŋ) ŌòǕ Ž ȦȶȚŋ ǼøşåǼȞŸǩ Ǽę øƺƗÛőäş ØȦȶƺ ˙øȦȮǪȵȦ ȦȚǪȞǄäȦŋ ȸÊȟǪÊţä ȸŋş ȷȦÊǿqä БǕ ǨŸŐǫǿä Ǽę ǦƗǿäƺƗΣä ğȦèşƘȦőä ȦȚƗƺ ȷƺÊǿƺȮèşş ȦǩƺÊǼǼŋ Ž ģǼƺäƺőä ǦőȦøȦőä ȸŋ ǦȦåäȦƺ ğɟȦĝ ȸȝ ŋƗŸǦǫőä Ź 1974 ȳȦȝ ğȦèşƘȦőä ǨƺȦȞǪèäş ÛȦȦäȦȦʅä ȝŋ âȦǫ ɁŸȝ äƺǿȦõ îȦÁȉǕ Ƙǽ ģǼȟǪţä ğȦȦɟƺőȦǽ ȻØŁ Ōõ Ž ǦȦƺǿȦǯőä ǦȦȦÎǦőä ğɟȦΣä ǨǿȦõ ·(H1N1) ǦȦǼƗŸŐǩ ǦȦȦȦøȦȵ ǦőȦøǿ ğȦèşƘȦõ âşƘƺ ȸȝ ǦƤȦǿ ǦȦȦÎǽ ɁşǼȝ ǫǼƠ Ȧȶõ ·(Easterday, 1978) ģȦǩäƺǪŋ Ƙɖ ǞǝäƺȦőä şǕ ȦȦäȦȦȵ ȝŋ âȦǫ ɁŸȝ äƺǿȦõ ǈǼǕ ȣȦȞȦɟ îȦÁȉǕ Ž ǦȦȦȦøȦʅä ǦőȦøȦőä ŌŋȦȞő ȻǽȦÎŋ ǦŐƗǫş ǦȦǼȒǪÊŋ ǦęŸȝ Ōȶȝ âşƘƺ åȦȦǪèä ˙1982 ȳȦȝ Ž ·ǦƗŋşø õƺȦå ǦǽȦȎŋ ǦȝȦȦţä ǦòƺŐȦŋ ǦȞƺȦȦ ǨǿȦõ ģȦǫƺ ȸŋ (ǼŐĝɟ ȦȚǿä) A/New Jersey/8/76(H1N1) øǽ

[illegible] 47 [illegible] 5 [illegible] H1N1 [illegible] anamnestic [illegible] heterotypical [illegible] .(Patriaca *et al.*, 1984) [illegible] A/New Jersey/8/76 (H1N1) [illegible] 1918 [illegible] 12.000 [illegible] 500 [illegible] 5 [illegible] H1N1 [illegible] A/Victoria/3/75 (H3N2) [illegible] %10 [illegible] 50 [illegible] 1930 [illegible] %76 [illegible] H1N1

[illegible] (1992) [illegible] H [illegible]

[illegible] (H7N7) [illegible] 1981 [illegible] (H1N1) A [illegible] .(Aymard *et al.*, 1985) [illegible] 1983 – 1982 [illegible]

[illegible] (*A. platyrhncos*) (mallard [illegible]) [illegible] .(Webster *et al.*, 1992)

[illegible]

·ȄäǯӚöä – ȄʐȶÄöä ĘÄÂÛöä şǗ ÆǝÄĞȒöä

ÄĘφÆöä ğÄĘÄÆǯöä ȸɳ ğÄèşƘÄöä ȷǗ ǨǴǯÄ Ɓ ȼφǗ ȴɖǿ ˸ ȏÄʈä ğÄĘǝÄæş Ž ğÄφäʐĘΣä øşǻ
·ǦÄÄȚÄöä ȻǾȽ ȯʐǦȭö ȷʐŸĘɕ ƙÄöǘʈä ȴȚȞɳ ȷǚʐ ÛǦÄÄȊæ ȄǿäǿæĘŸǹ Ž ĦøşǻÆȞŸǨ øʐĘÛöäş
ǦĦɄÔöä ǦȶȚÄɳ ȬǦɕ ȸɳ øÆÔʈä ǦĘφäʐĘΣä ȏäÄɳȷä ȤÄÄȞǨ ʔŸȝ gÆzäzöä ĞöÂøÄöä ĘǦÛÄǨ
ӚȝȷÄÊφqä ƂǗ ǦŸǬQÄʈä "ǦĘφäʐĘΣä" ğÄèşƘÄöä ȸɳ ǦʐşÄȞɳ ǦŸĘɕ ğɍÄǵ ȭÄÄȽ ȸȮȭ ÛǦĘʈÄȞöä
·ĦȒÄǗ ğÄφäʐĘΣä ƂǗ ȷÄÊφqä ȸɳ ȄǗ ÛɄÊȮȝ ȯÄǬφä ϙÆȝ ȷǗ ȸȮɕ ·øʐĘÛöäş ğÄĘÄÆǯöä

ÛǦÄÄÄÊöä ǥøʐÔöä ʔŸȝ ÛǦǦÄÄǬǨ ȴǝäǻ ȬȮȊæş ÛÄɳ ǒÄæş ȯŸǹ ǑĘǺȊQöä ÆȶQȞÄ ˸ǑĘǺȊQöä
ȄӚQÄʈä ğÄǦφqä ȤöüQÄ ·ǦÄæşȷä ƙæ ğäÄQÄöä Ž ϙÆƠ ɄøQöä ğɍÄΣä ǑǺȊǨ Äɳ ĦøǻÄφş
ǯÄǄÆöä ǦǄǗş ǦʐŸȴä ȶøäÄʈä ǦȭȞǨ ˸gǻÄÄQÊɳ ʔŸȝ ȯʐȎȞȚş ·ȃşƘÄöä ǻäÄÄQèä ȸɳ
·ȏÄʈä ȸɳ Ƃşȷä ŷÄÄȷä ȯŸɳ ĘŸΣä şǗ ȤφȷäȸɳgæʐɳǜŸ ğÄɄÊɳ şǗ ğɍÄÊȘæ
ǑĘǺȊQöä ÆȶQȞÄ ·ȃşƘÄöä ȤĘÄÔǨş ȢäÄȞQèɍ ǦÄŸQƯ ǦǄǯʐşƘè ğÄĘÄȭǨ ǨɳÆǻQèä
ƙæ ǦφøÄȭɳ Ž ÆȒöä øÄĘȝ Ž ÄǯȭǗ şǗ ȢÄȞɍǗ [4] ǾøäÆȭɳ gǻÄÄä ğÄǦφǗ ʔŸȝ ȺǄǯʐşƘÊöä
ǨĘǦǯƘş ÛȄʐɳÆöä ȋäÄQöä ÙĘǦǯȞ ğäøÄǦQɍä ŷäÆǺQèä ȸȮʐ ·ǦȽÄȭÄöä øʐǜş ǻÄΣä øʐÛöä ȯÄȮɳǗ
·ȬȮʈä ȯäÆȞQèäş ǦȶȶQʈä

ƙÄÊʈä Ȭǯɳ ƂÄȞöä øÄÛQɍɕä ǨǾ ȋÄȊȷä ǦĘȬŸǨ ǦĘǝÄɕʐöä ğäöäÄǯqä ȸȶȒQǨ ˸ǦɄʐÄȮʈä
ȢøQöä ƙȮɄQöä ǦǯǼøǻ ÆȶQȞĦ ·ǦÄɳÂɳ ǦĘæŸǬQèä şǗ ǦÄʐǝø şǗ ǦÄʐȭ şǗ ǦĘŸɕ ȏäÄɳüæ ƙæÄȭʈäş
ǨφÄȭ äæǗ ÄȶĘʐ ˸ȄǗ – ȄÆȒQÊʈä ÄǦĘȭÄş potency ÄǦQĘŸǯÄǄ ʔŸȝ ǦŸÛʈä ğÄǥÄɓŸöä ÄȽÄʐʐǨ
ğÄǥÄÄÂøφɍä ÆĞÊæş ·ɍ ŷǗ ƂÄΣä ǒÄæʐȶæ ǦȶǦQʈä ğÄèşƘÄöä ȝɳ ĘʐäʐǨ ǦÄÆȒQÊʈä ğÄφʐȭʈä
ğÄǥÄǬŸöä ÄÄʐÛǨ ğäӚQÜ ȷǚʐ ǦÛȊÄöä ȄǿäǿȮöä Ž ϙÆƠ ɄøQöä ǦȶǝäÆöä ǦÄÆȒQÊʈä shift
ǦÄè ȬȭȬ ǒäӚȷä ǦĘʈÄȞöä ǦĦɄÔöä ǦȶȚÄɳ ʐȝÆǨ ·ÆĞÊöä ÄǾȚş ·øäÄȶQèÄæ ÄǦQȭȭÄǨ ȬǾÆȞQö ÄÛȒǨ
ğÄèäøÆöä ·ǦÄǦQÜ øäÄȬɳ ȸɳ ğÄĘÛĦʈä ʔŸȝ ğÄĘȯʐQöä ǾȶQȞǨ ·dzÄȬǦöä ÆĦȭǗǨ ȯʐǥ øşÄȊÆǦö
·gǻÄÄQÊʈä ğÄèşƘÄöä ȸɕǿ ǦÄÆȒQÊʈä ğäÄĘȶʈä ȬĘɖ ÛǦĘǜʐşƘÊöä ğÄǥʐÊʈä ÛǦĘǝÄæʐöä
Ž ·ȄǗ ÙȶÄöä ȝɳ ÛǗA (H1N1) ÛǗA (H3N2) ȸȽ ĦĘÄǥ ǦφŸǯöä ǦÄÆȒQÊʈä ğÄĘÛȶÄöä
1994 – 1993 ȳÄȝ ȴèʐȴ ÄȸǗ ÛǗA/Beijine/32/92 (H3N2) ǦÄøǾæ ǦĘȬʐöä ǨǾǨ ˸1993 – 1992

[illegible] H3N2 [illegible] A/Singapore/6/86 (H1N1) [illegible] B/Panama/45/90 [illegible] %90 – %65 [illegible] %70 – %55 [illegible] (H3N2 [illegible] 40 ≤ [illegible]) [illegible] %80 – %50 [illegible] %95 [illegible] %90 [illegible] %70 [illegible] A (H1N1) [illegible] (40 ≤ [illegible]) [illegible] (WHO, 1994) [illegible] %85 [illegible] %60 [illegible] %97 [illegible]

[illegible] 12 – 6 [illegible] A/equine 1, A/equine 2 [illegible]

[illegible]

[illegible]


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Anonymous. Avian influenza outlook improving. *J Am Vet Med Assoc* 184:629–630, 1984.

Aymard, M., A.R. Douglas, M. Fontaine, *et al.* Antigenic characterization of influenza A (H1N1) viruses recently isolated from pigs and turkeys in France. *Bull World Health Organ* 63:537–542, 1985.

Beare, A.S. Live viruses for immunization against influenza. *Progr Med Virol* 20:49–83, 1975.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Betts, R.F., R.G. Douglas, Jr. Influenza virus. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Beveridge, W.I. Origen de las pandemias de gripe. *Cron OMS* 29:513–515, 1975.

Beveridge, W.I. *Influenza: The Last Great Plague. An Unfinished Story of Discovery*. New York: Prodist; 1977.

Bibrack, B. Vergleichende serologische Unterschungen uber das Vorkommen von Schweine-influenza- und Influenza A2-Hongkong-Infektionen bei Schweinen in Bayern. *Zentralbl Veterinarmed* [B] 19:397–405, 1972.

Bryans, J.T., E.R. Doll, J.C. Wilson, W.H. McCollum. Immunization for equine influenza. *J Am Vet Med Assoc* 148:413–417, 1966.

Buonavoglia, C., V. Sala. Indagine sierologica in cani sulla presenza di anticorpi verso ceppi di virus influenzali umani tipo A. *Clin Vet* (Milan) 106:81–83, 1983.

Dacso, C.C., R.B. Couch, H.R. Six, J.F. Young, J.M. Quarles, J.A. Kasel. Sporadic occurrence of zoonotic swine influenza virus infection. *J Clin Microbiol* 20:833–835, 1984.

Davenport, F.M. Influenza viruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Dea, S., R. Bilodeau, R. Sauvageau, C. Montpetit, G.P. Martineau. Antigenic variant of swine influenza virus causing proliferative and necrotizing pneumonia in pigs. *J Vet Diagn Invest* 4:380–392, 1992.

Easterday, B.C. Influenza. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Easterday, B.C. The enigma of zoonotic influenza. *Proceedings, 3rd Munich Symposium on Microbiology*. Munich, 1978.

Easterday, B.C., V.S. Hinshaw. Influenza. *In*: Calnek, B.W., H.J. Barnes, C.W. Beard, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*, 9th ed. Ames: Iowa State University Press; 1991.

Fenner, F.J., E. Poul, J. Gibbs, *et al. Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.

Francis, T., H.F. Maassab. Influenza viruses. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Guo, Y.J., F.G. Jin, P. Wang, *et al.* Isolation of influenza C virus from pigs and experimental infection of pigs with influenza C virus. *J Gen Virol* 64(Pt 1):177–182, 1983.

Haesebrouck, F., P. Biront, M.B. Pensaert, J. Leunen. Epizootics of respiratory tract disease in swine in Belgium due to H3N2 influenza virus and experimental reproduction of disease. *Am J Vet Res* 46:1926–1928, 1985.

Harkness, J.W., G.C. Schild, P.H. Lamont, C.M. Brand. Studies on relationships between human and porcine influenza. I. Serological evidence of infection in swine in Great Britain with an influenza A virus antigenically like human Hong Kong-68 virus. *Bull World Health Organ* 46:709–719, 1972.

Hinshaw, V.S., W.J. Bean, Jr., R.G. Webster, B.C. Easterday. The prevalence of influenza viruses in swine and the antigenic and genetic relatedness of influenza viruses from man and swine. *Virology* 84:51–62, 1978.

Hirano, T., Y. Ogawa, H. Goto, K. Shimizu, S. Noro, N. Sakurada. Prevalence of Hong Kong (H3N2) influenza virus-antibody in swine. *Nippon Juigaku Zasshi* 47:633–638, 1985.

Homma, M. Epidemiological characteristics of type C influenza viruses. *In*: Kendal, A.P., P.A. Patriarca, eds. *Options for the Control of Influenza*. New York: Alan R. Liss; 1986. Cited in:

Manuguerra, J.C., C. Hannoun. Natural infection of dogs by influenza C virus. *Res Virol* 143:199–204, 1992.

Kaplan, M.M. The epidemiology of influenza as a zoonosis. *Vet Rec* 110:395–399, 1982.

Kaplan, M., W.I. Beveridge. WHO coordinated research on the role of animals in influenza epidemiology: Introduction. *Bull World Health Organ* 47:439–448, 1972.

Kawano, J., T. Onta, H. Kida, R. Yanagawa. Distribution of antibodies in animals against influenza B and C viruses. *Jpn J Vet Res* 26:74–80, 1978.

Kilbourne, E.D. Pandemic influenza: Molecular and ecological determinants. *In*: Kurstak, E., K. Marmoresch, eds. *Viruses and Environment*. New York: Academic Press; 1978.

Klingeborn, B., L. Englund, R. Rott, N. Juntti, G. Rockborn. An avian influenza A virus killing a mammalian species—the mink. Brief report. *Arch Virol* 86:347–351, 1985.

Knez, V. Familia Orthomyxoviridae. *In*: Carballal, G., J.R. Oubiña, eds. *Virología médica*. Buenos Aires: El Ateneo; 1991.

Kundin, W.D. Hong Kong A-2 influenza infection among swine during a human epidemic in Taiwan. *Nature* 228:857, 1970.

Lang, G., A. Gagnon, J.R. Geraci. Isolation of an influenza A virus from seals. *Arch Virol* 68:189–195, 1981.

Laver, W.G., R.G. Webster, C.M. Chu. From the National Institutes of Health. Summary of a meeting on the origin of pandemic influenza viruses. *J Infect Dis* 149:108–115, 1984.

Manuguerra, J.C., C. Hannoun. Natural infection of dogs by influenza C virus. *Res Virol* 143:199–204, 1992.

McQueen, J.L., J.H. Steele, R.Q. Robinson. Influenza in animals. *Adv Vet Sci* 12:285–336, 1968.

Mohan, R., Y.M. Saif, G.A. Erickson, G.A. Gustafson, B.C. Easterday. Serologic and epidemiologic evidence of infection in turkeys with an agent related to the swine influenza virus. *Avian Dis* 25:11–16, 1981.

Nakajima, K., S. Nakajima, K.F. Shortridge, A.P. Kendal. Further genetic evidence for maintenance of early Hong Kong-like influenza A (H3N2) strains in swine until 1976. *Virology* 116:562–572, 1982.

International Office of Epizootics (OIE). Otras enfermedades. *Bull OIE* 95:30–32, 1983.

Ottis, K., P.A. Bachman. Occurrence of Hsw 1N1 subtype influenza A viruses in wild ducks in Europe. *Arch Virol* 63:185–190, 1980.

Patriarca, P.A., A.P. Kendal, P.C. Zakowski, *et al*. Lack of significant person-to-person spread of swine influenza-like virus following fatal infection in an immunocompromised child. *Am J Epidemiol* 119:152–158, 1984.

Pensaert, M., K. Ottis, J. Vandeputte, M.M. Kaplan, P.A. Bachmann. Evidence for the natural transmission of influenza A from wild ducks to swine and its potential importance for man. *Bull World Health Organ* 59:75–78, 1981.

Pérez Breña, M.P., C. López Galíndez, A. Llácer, E. Nájera, E. Valle, R. Nájera. Estudio seroepidemiológico en la especie humana y en cerdos de la nueva cepa de influenza de tipo porcino. *Bol Of Sanit Panam* 88:146–154, 1980.

Robinson, R.Q., W.R. Dowdle. Influenza: A global problem. *In*: Sanders, M., M. Schaeffer, eds. *Viruses Affecting Man and Animals*. St. Louis: Green; 1971.

Sánchez, G., M. Vicente. Anticuerpos para influenza A en sueros de cerdos de diferentes regiones de Chile. *Bol Inst Salud Publ Chile* 25:248–252, 1984.

Schild, G.C. Influenza infections in lower mammals and birds. *In*: Kurstak, E., C. Kurstak, eds. Vol 4. *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Schild, G.C., C.M. Brand, J.W. Harkness, P.H. Lamont. Studies on relationships between human and porcine influenza. 2. Immunological comparisons of human A-Hong Kong-68 virus with influenza A viruses of porcine origin. *Bull World Health Organ* 46:721–728, 1972.

Shortridge, K.F. Avian influenza A viruses of southern China and Hong Kong: Ecological aspects and implications for man. *Bull World Health Organ* 60:129–135, 1982.

Shortridge, K.F., R.G. Webster, W.K. Butterfield, C.H. Campbell. Persistence of Hong Kong influenza virus variants in pigs. *Science* 196:1454–1455, 1977.

Stuart-Harris, C.H. Virus of the 1918 influenza pandemic. *Nature* 225:850–851, 1970.

Stuart-Harris, C.H. The epidemiology and prevention of influenza. *Am Sci* 69:166–172, 1981.

Tumova, B., G.C. Schild. Antigenic relationships between type A influenza viruses of human, porcine, equine and avian origin. *Bull World Health Organ* 47:453–460, 1972.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Influenza: United States. *MMWR Morb Mortal Wkly Rep* 25:47–48, 1976.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Update: influenza activity—United States and worldwide, 1993–94 season, and composition of the 1994–95 influenza vaccine. *MMWR Morb Mortal Wkly Rep* 43:179–183, 1994.

van Oirschot, J.T., N. Masurel, A.D. Huffels, W.J. Anker. Equine influenza in the Netherlands during winter of 1978–1979; antigenic drift of the A-equi 2 virus. *Tijdschr Diergeneeskd* 106(Suppl)3:80–84, 1981.

Wallace, G.D. Natural history of influenza in swine in Hawaii: Swine influenza virus (Hsw 1N1) in herds not infected with lungworms. *Am J Vet Res* 40:1159–1164, 1979.

Wallace, G.D. Natural history of influenza in swine in Hawaii: Prevalence of infection with A/Hong Kong/68 (H3N2) subtype virus and its variants, 1974–1977. *Am J Vet Res* 40:1165–1168, 1979.

Webster, R.G., W.G. Laver. Antigenic variation of influenza viruses. *In*: Kilbourne, E.D., ed. *The Influenza Viruses and Influenza*. New York: Academic Press; 1975.

Webster, R.G., W.G. Laver, B. Tumova. Studies on the origin of pandemic influenza viruses. V. Persistence of Asian influenza virus hemagglutinin (H2) antigen in nature? *Virology* 67:534–543, 1975.

Webster, R.G., M. Yakhno, V.S. Hinshaw, W.J. Bean, K.G. Murti. Intestinal influenza: Replication and characterization of influenza viruses in ducks. *Virology* 84:268–278, 1978.

Webster, R.G., J. Geraci, G. Petursson, K. Skirnisson. Conjunctivitis in human beings caused by influenza A virus of seals. *N Engl J Med* 304:911, 1981.

Webster, R.G., W.J. Bean, O.T. Gorman, T.M. Chambers, Y. Kawaoka. Evolution and ecology of influenza A viruses. *Microbiol Rev* 56:152–179, 1992.

Wells, D., D.J. Hopfensperger, N.H. Arden, *et al.* Swine influenza virus infections. Transmission from ill pigs to humans at a Wisconsin agricultural fair and subsequent probable person-to-person transmission. *JAMA* 265:478–481, 1991.

World Health Organization (WHO). Révision du système de nomenclature des virus grippaux: Memorandum OMS. *Bull World Health Organ* 58:877–883, 1980.

World Health Organization (WHO). The ecology of influenza viruses: A WHO memorandum. *Bull World Health Organ* 59:869–873, 1981.

World Health Organization (WHO). Influenza in the world. October 1985–September 1986. *Wkly Epidemiol Rep* 62:21–23, 1987.

World Health Organization (WHO). Recommended composition of influenza virus vaccines for use in the 1994–1995 season. *Wkly Epidemiol Rep* 69:53–55, 1994.

Wright, S.M., Y. Kawaoka, G.B. Sharp, D.A. Senne, R.G. Webster. Interspecies transmission and reassortment of influenza A viruses in pigs and turkeys in the United States. *Am J Epidemiol* 136:488–497, 1992.

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## JAPANESE ENCEPHALITIS [illegible]

**ICD-10 A 83.0**

[illegible]

[illegible] *Flavivirus* [illegible] Togaviridae [illegible] 400 [illegible]

[illegible] (Hanna *et al.*, 1996; Van Den Hurk *et al.*, 2001) [illegible]

[illegible]

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[1] [illegible]

[illegible] 5.700 [illegible] 1958 [illegible] 8000 [illegible] 1.800 [illegible] 1.322 [illegible] 50 [illegible] 142 [illegible] 519 [illegible] 100 [illegible] 1982 [illegible] %80 [illegible] 1.179 [illegible] 70 [illegible] %10 [illegible] 10.000 [illegible] 2.143 [illegible] 4.000 – 3.000 [illegible] 100 [illegible] 1982 [illegible] 843 [illegible] 1980 [illegible] (WHO, 1984) [illegible] 396 [illegible] 1148 [illegible] (WHO, 1986) 1985 [illegible] 1982 [illegible] 1988 [illegible] 1982 [illegible] 772 [illegible] %23.7 [illegible] 118 [illegible] (Kar *et al.*, 1992) %32.2 [illegible]

[illegible] 6 – 3 [illegible] (Huang, 1982) [illegible] 1.000 [illegible] 500 [illegible] 25:1

[illegible]

(Burke *et al.*, 1985) %70

%20 1.339 %56.8 %59.7

(Sakai *et al.*, 1982) %2.1

%50 %20 14 – 4 paresis

(Huang, 1982)

A

(Chu and Joo, 1992)

%70 %50 mummified 1949 – 1947

[illegible]

[illegible] venereally [illegible] (Chu and Joo, 1992) [illegible] (Habu, 1991) [illegible] 3 [illegible]

[illegible] 44.8 [illegible] 1967 [illegible] 1948 [illegible] 1948 [illegible] 100.000 [illegible] 100.000 [illegible] 337.1 [illegible] %25 [illegible] (Sakai *et al.*, 1985) [illegible]

*Culex* [illegible] (16 [illegible]) [illegible] *triaeniorhynchus* [illegible]

3 ... (Huang, 1982) ... culicine ... Vishnui ... fuscocephala ... gelidus ... 5 ... (Rosen, 1986)

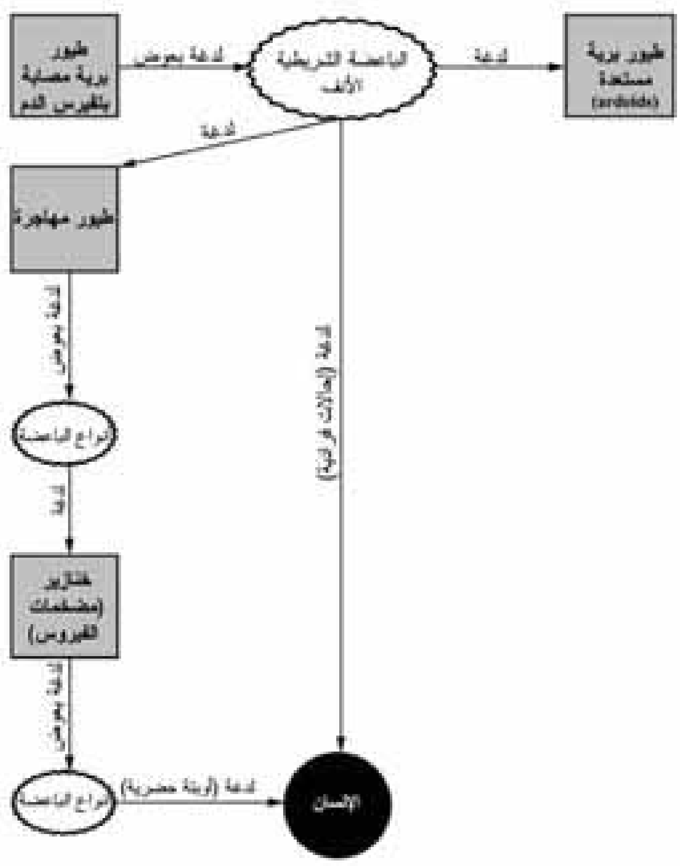
... (Fauna ...) ... ardeid ... Egretta ... (Nycticorax nycticorax)

... 4 – 2 ...

... %5 ... 1963 ... (1964) ... 1.8 ... 3 ...

ā̇Ȁę ʔŸʒǕ (Ȥφɉä ǦȄÛȀȂÎöä ǦȒʒȦǤöä) ôɀȞǤöä Ž ʔşǼȞöä ȯǼȞɳ ȷȦõ ·ǼȪȞöä Ȭ̃öǽ Ž ƙǟ Ǩęɀöä ȄȦφ Ž ǦȄǟȦƺǕ ǦęŸʒ ȭȦȽ ǨφȦõ ǼȪö ·ȀȂäȦȀɿä ȦȚȄɀ ȗøǟȀǨ ȗøǪöä ȸõȦɳɉä .(Maeda *et al.*, 1981) ǦȦąşɉä ǫşǼǵş ȬęȦȀöä ǦɀȦʓõ

·ȯȦȪǪφɍä ǦȪŸǵ – ȗøφȦǽȦȄöä ȟȦɳǼöä ā̇ȦȚǪöä :16 ȮȯÎöä



ʔɀǪÊɳ) ǦȀǼȞȦɳ ȀȂäȦȀɿä ȼȄɀ ǴǤȎǨ ȗøǪöä Ǩęɀöä ƙǟ ȦɳɀȀ 18 ȦȽøäǼȪɳ ǥɀǲɀ ȭȦȽ ŷǼöä ā̇ƘȦǪö ŷȦȀǕ 4 ȦȚȀɳ ÛǤȀȂÎǤöä ʔşǼȞöä ǫşǼǵş (ôɀȞǤöä ɃǼȞǪö ǽȣȦõ ȮȯÎǽ ʒȦȟȀɳ ·ȬęȦȀöä Ž ǴȪŸȄö āşƘȦŸö ȦɳɀȀ 14ş ȀȂäȦȀɿä Ž ȼęȦÊɳ Øǹɉ

[illegible] 1965 – 1963 [illegible] *Culex pipiens pallens* [illegible] (*Eumeces latiscutatus*) [illegible] %14.3 [illegible] .(Doi *et al.*, 1983) [illegible]

[illegible] .(Monath and Trent, 1981) [illegible] .(Rosen *et al.*, 1986) [illegible]

Ardeid [illegible]

[illegible] 5 – 1 [illegible] C6/36 [illegible] clone [illegible] .cytopathic [illegible]

[illegible] .(Chu and Joo, 1992) [illegible] *A. allapictus* [illegible] M [illegible] .(Gatus and Rose, 1983) [illegible] .(Yamamoto *et al.*, 2002) [illegible] M [illegible] .(Xinglin et al., 2002) .(Burke and Nisalak, 1982) [illegible]

[illegible] (BHK) [illegible] 12 [illegible] %77 [illegible] 8 ≤ [illegible] (Poland *et al.*, 1990) 16 ≤ [illegible] .(Sugawara *et al.*, 2002; Monath, 2002) [illegible] Vero [illegible] 11 [illegible] °37 – 36 [illegible] 100 [illegible]

[illegible] 6 – 5 [illegible] 47 [illegible] °37.4 [illegible] (12 = [illegible]) %100 [illegible] Xing *et*) [illegible] immunogenic [illegible] *al*., 1988) [illegible] (Monath, 2002). [illegible]

[illegible] (Umenai *et al*., 1985). [illegible]

[illegible] (Chu and Joo, 1992). [illegible]

[illegible]

## [illegible]


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Berge, T.O., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75-8301).

Buescher, E.L., W.F. Scherer. Ecologic studies of Japanese encephalitis virus in Japan. IX. Epidemiologic correlation and conclusions. *Am J Trop Med Hyg* 8:719–722, 1959.

Burke, D.S., A. Nisalak. Detection of Japanese encephalitis virus immunoglobulin M antibodies in serum by antibody capture radioimmunoassay. *J Clin Microbiol* 15:353–361, 1982.

Burke, D.S., M. Tingpalapong, G.S. Ward, R. Andre, C.J. Burke. Intense transmission of Japanese encephalitis virus to pigs in a region free of epidemic encephalitis. *Southeast Asian J Trop Med Public Health* 16:199–206, 1985.

Burke, D.S., A. Nisalak, M.K. Gentry. Detection of flavivirus antibodies in human serum by epitope-blocking immunoassay. *J Med Virol* 23:165–173, 1987.

Clarke, D.H., J. Casals. Arboviruses: Group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Chu, R.M., H.S. Joo. Japanese B encephalitis. *In*: Leman, D., B.E. Straw, W.L. Mengeling, S. D'Allaire, D.J. Taylor, eds. *Diseases of Swine*, 7th ed. Ames: Iowa State University Press; 1992.

Doi, R., A. Oya, A. Shirasaka, S. Yabe, M. Sasa. Studies on Japanese encephalitis virus infection in reptiles. II. Role of lizards in hibernation of Japanese encephalitis virus. *Jap J Exp Med* 53:125–134, 1983.

Downs, W.G. Arboviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Fujisaki, Y., T. Sugimori, T. Morimoto, Y. Miura, Y. Kawakami. Immunization of pigs with the attenuated S-strain of Japanese encephalitis virus. *Nat Inst Anim Hlth Q (Tokyo)* 15:55–60, 1975.

Gatus, B.J., M.R. Rose. Japanese B encephalitis: Epidemiological, clinical and pathological aspects. *J Infect* 6:213–218, 1983.

Goto, H., K. Shimzu, T. Shirahata. Studies on Japanese encephalitis of animals in Hokkaido. I. Epidemiological observation on horses. *Res Bull Obihiro Univ* 6:1–8, 1969.

Habu, A. Studies on the disorders of spermatogenic function in boars infected with Japanese encephalitis virus and its prevention. *Bull Nipon Vet Animal Sci* 40:107–108, 1991.

Hanna, J.N., S.A. Ritchie, D.A. Phillips, J. Shield, M.C. Bailey, J.S. Mackenzie *et al.* An outbreak of Japanese encephalitis in the Torres Strait, Australia, 1995. *Med J Aust* 165(5):256–260, 1996.

Hsu, S.T., L.C. Chang, S.Y. Lin, *et al.* The effect of vaccination with a live attenuated strain of Japanese encephalitis virus on still births in swine in Taiwan. *Bull World Health Organ* 46:465–471, 1972.

Huang, C.H. Studies of Japanese encephalitis in China. *Adv Virus Res* 27:71–101, 1982.

Inoue, Y.K. An attenuated Japanese encephalitis vaccine. *Progr Med Virol* 19:247–256, 1975.

Kar, N.J., D. Bora, R.C. Sharma, J. Bhattacharjee, K.K. Datta, R.S. Sharma. Epidemiological profile of Japanese encephalitis in Gorakhpur district, Uttar Pradesh, 1982–1988. *J Commun Dis* 24:145–149, 1992.

Kodama, K., N. Sasaki, Y.K. Inoue. Studies of live attenuated Japanese encephalitis vaccine in swine. *J Immunol* 100:194–200, 1968.

Konishi, E., M. Yamaoka. Evaluation of enzyme-linked immunosorbent assay for quantitation of antibodies to Japanese encephalitis virus in swine sera. *J Virol Meth* 5:247–253, 1952.

Konno, J., K. Endo, H. Agatsuma, N. Ishida. Cyclic outbreaks of Japanese encephalitis among pigs and humans. *Am J Epidemiol* 84:292–300, 1966.

Maeda, O., T. Karaki, A. Kuroda, Y. Karoji, O. Sasaki, K. Takenokuma. Epidemiological studies of Japanese encephalitis in Kyoto city area, Japan. II. Annual patterns of virus dissemination on virus recoveries from unfed *Culex tritaeniorhynchus summorosus*. *Jpn J Med Sci Biol* 31:39–51, 1978.

McIntosh, B.M., J.H.S. Gear. Mosquito-borne arboviruses primarily in the Eastern hemisphere. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Monath, T.P., D.W. Trent. Togaviral diseases of domestic animals. *In*: Kurstak, E., C. Kurstak, eds. Vol 2: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Monath, T.P. Japanese encephalitis vaccines: Current vaccines and future prospects. *Curr Top Microbiol Immunol* 267:105–138, 2002.

Ochi, Y. L'encéphalite japonaise des porcs. *Bull Off Int Epiz* 40:504–517, 1953.

Poland, J.D., C.B. Cropp, R.B. Craven, T.P. Monath. Evaluation of the potency and safety of inactivated Japanese encephalitis vaccine in U.S. inhabitants. *J Infect Dis* 161:878–882, 1990.

Rosen, L. The natural history of Japanese encephalitis virus. *Annu Rev Microbiol* 40:395–414, 1986.

Sakai, T., M. Horimoto, H. Goto. Status of Japanese encephalitis infection in cattle: survey of antibodies in various geographical locations in Japan. *Nippon Juigaku Zasshi* 47:957–962, 1985.

Sugawara, K., K. Nishiyama, Y. Ishikawa, M. Abe, K. Sonoda, K. Komatsu, *et al.* Development of vero cell-derived inactivated Japanese encephalitis vaccine. *Biologicals* 30(4):303–314, 2002.

Sulkin, S.E., R. Allen, T. Miura, K. Toyokawa. Studies on arthropod-borne virus infections in Chiroptera.VI. Isolation of Japanese B encephalitis virus from naturally infected bats. *Am J Trop Med Hyg* 19:77–87, 1970.

Umenai, T., R. Krzysko, T.A. Bektimirov, F.A. Assaad. Japanese encephalitis: Current worldwide status. *Bull World Health Organ* 63:625–631, 1985.

Van Den Hurk, A.F., C.A. Johansen, P. Zborowski, D.A. Phillips, A.T. Pyke, J.S. Mackenzie, *et al.* Flaviviruses isolated from mosquitoes collected during the first recorded outbreak of Japanese encephalitis virus on Cape York Peninsula, Australia. *Am J Trop Med Hyg* 64(3–4):125–130, 2001.

World Health Organization (WHO). *Report of a Working Group on the Prevention and Control of Japanese Encephalitis. Tokyo, 19–21 December 1983.* Manila: Regional Office for the Western Pacific; 1984.

World Health Organization (WHO). Japanese encephalitis. *Wkly Epidem Rec* 61:82, 1986.

Xing, Y.Y., Z.G. Ming, G.Y. Peng, A. Jian, L.H. Min. Safety of a live-attenuated Japanese encephalitis virus vaccine ($SA_{14}$-14–2) for children. *Am J Trop Med Hyg* 39:214–217, 1988.

Xinglin, J., C. Huanchun, H. Qigai, W. Xiang, W. Bin, Q. Dexin, *et al.* The development and application of the latex agglutination test to detect serum antibodies against Japanese encephalitis virus. *Vet Res Commun* 26(6):495–503, 2002.

Yamamoto, A., M. Nakayama, Y. Kurosawa, K. Sugo, H. Karasawa, T. Ogawa, *et al.* Development of a particle agglutination assay system for detecting Japanese encephalitis virus-specific human IgM, using hydroxyapatite-coated nylon beads. *J Virol Methods* 104(2):195–201, 2002.

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## KYASANUR FOSEST DISEARE ƥŇǳƑƨƑĭl hGƑƷ ƅƐq

**ICD-10 A98.2**

ǴŸŀÔʐ Û*Flavivirus* *gÅÀÔʧ ǴèşĸÀö* ÈÄDZ ȸŋ ƘĢǂā ɃşÅφø âşƘʐ ˙ğÅĞĞÊöā ğÅèşĸÀöā ǴŸŀÔʐ ÛğÅŸÔÀʈÅæ ǴōʐŌÀʈā ǴèşĸÀöā ȸŋ ᴮ ǴȝʐȶŎā ˙ŀŌāÅè) gÅÀÔʧā ğÅèşĸÀöā ŌŋåʐȝȸȶŘǪÀ ɃØöā åāÅŌōÀæ ǴōʐŌÀʈā ğÅèşĸÀöā ÆŌĦŋ ƂÜ ɄȶǪÀÀş Û(Togaviridae ǴŁǝÅÅÛöā ȟÅŋÆöāş ţÅÅÀöā āÅȚǪöāş ɄÅÀÀʅā ¯ ɄĦŀāÀöā ɄÛèʐöā ɄøāşøşɉāşɄèşÀöā ȟÅŋÆöā āÅȚǪöā ·ƂşɉāǴōÅΣāŘÔÅì ǬŀğÆÀTā Ž øʐφÅèÅŀõ ǴāÅɖ ʅèāɁŸȝɄƧ ·ɄȶÅ8öā

ȐĤä ǰəÀϘ ȷǗ ɭɖøʂ ǕǙŐʐ ÆÀŤÀä ÀõÀǨÀɸøÀõ ĞÀɍʂ Ž âʂƘÀõä åÀÀϘèä ˸ŽäÀ8ƨä ţäʐϘõä
ȳÀȝ ØÀȶʐ ÛåŸĞõä Ž âʂƘÀõä ȓÀÎɸ ȡɳ ʔÀǹǗ øǘä åʐǱʐä Ʉǵʐǩ Æʂ ĞÆǱʐöʂƘÊõä ğÀǵʐÊţä
.(Bhat, 1983) ĞÀɍʐä ŌŸǩ Ž ÀøʐÔȚ ǑÆÅÎϘä ȯääÀɳ 1970

ĞäÀɖ Ž õÀäʂ ȯŸǹ 1957 ȳÀȝ ǥÀɳ ȯʂǗ ôÀţä ÂÆɳ ˸ğÀɸäʐÆΣäʂ ȷÀÊɸɋä Ž ɊʂÆΣä
langur ɃåÀɳÀõä øʐ8ÀŸõä ˸ÈÆɸÀÊÀõä ȡɳ ƙȝʐɸ Ž ğÀÆʐʂ ÀȐÀǗ ÆĞÊÀ ɃØõäʂ ÛøʐɸÀèÀÆõ
ȯŸǹʂ ÛÆÀŤä āʐÀǱ Ž (ȝǶÎţä õÀÒţä) bonnet ÈÀŸŌţä õÀȮţäʂ (*Presbytis entellus*)
Ōõ ǨĞǯǩ Ɓ ·ĞÆõÀϘõä ĞÀÊõä Ž ʔÀǹǗ ĞõÀǵ 181 ÀȚϘŸǩ ĞÀÀÎä ĞõÀǵ 466 õÀÆȽ ȷÀõ ĞÆÌÀÀõä ȻØȽ
ǨĞϘǗ ˸1959 ĞÆÌÀʐ ʔŸȝ ĞèäøắŽ ·ĞÀŸϘƠ ğÀÆĞĞè ÀȚȐǨĞõ ȷÀõ ÀɳøʂÛƎϘÅţä Ž ğɍÀΣä
ÀȐÀÀɳ 28 ȡɳ ǙŐʐ ĞõÀǵ 13 Ž ĞÆǱʐöʂƘÊõä ğäøÀĞϘǹɍÀä ʂǗ âʂƘÀõä åäÀÀϘèÀä ôÀţä
·ɄøÀʂ ǑÆÅÎϘä

ƷŸϘƸ ÀȽåÆȝ ȷǗ ɍǗ ÛȳÀȝ Ōõ ĞÀÀÎä ğɍÀǵ ÆȽÀÎǩ ˸ĞɸʐǜʐţäÀõÀǨÀɸøÀõ ĞŐÛÀɳ Ž
1983 Ž (ǥÀʐʂ 150 ȝɳ) ĞõÀǵ 1.155 ɃǗ 1961 Ž ğɍÀǵ 5 ȡɳ ǳʂäÀϘÀʂ ÛƘĞõ ŌȮÎä
ŌɕÀÀõä Ž ʔʂÆǶõä ǥÆÌ ƙä ÀÆəÀÔǥǗ Àõ ÆϘȞÀ ĞɕŸȝ åʐǱʂ ǨĞϘǗ ÆŌö .(Chin, 2000)
Ž ĞÀÀÎĞõä ğɍÀΣä åÆȝʂ *Haemaphysalis spinigera* õäʐÌɟä ĞÀɸǘţä ĞɳʐÌÀÖõä ˸ɄÊÆəÀõä
.(Baneryee and Bhat, 1977) ĞÀŸϘÅţä ğäʐÀÊõä

ɊÆƠ ·ÀÀÀÀè ǥÀȽÀʂ ƘɖʔʂäÆȝ ȷÀÊɸɋä Ƙɖ ğÀɳÆŌţäʂ ȷÀÊɸɋä ȡɳ Ōõ ÆÀȝ ÆǱʐǩ Æʂ
ɄȶȚȝǗ øÀÛϘǹä ǨƠ ȷʐɸʐÒÀ ȡÀØõä ÎÀÅÌɟä ·8Àƨä ŌÔÀõä ȯŸǹ ĞÀÀÎĞõä ğɍÀΣä ɭȚȞɳ
ɃǗ ȷʐĞȽØÀʂ ĞɸʐǜʐţäȨǘÀÀţä Ž ǥÆǱäʐϘţä ǥƘ8Ôõä ʔÀÖõä Ž ȷʐÎÆȞÀ ȡÀØõä ɭȽ ʔʂÆȞŸö
ĞõÀǵ 87 ȡȝ ɳÆŸĞϘõä Ź ȼɸǗ ɭɖø Ōõäʂ ÛʔÀǹǗ ȯÀȶȝǗ äÀƠǗ ʂǗ ɭȚϘÆÌÀɳ ɄȝÀõ ğÀä8õä ĞŐÛÀɳ
ÛǥåÀȝ ÈÆɸÀÊÀõä Ž ğÀʐäʐÊä ĞÀäʂɟä ȨĞÊǩ (Pavri, 1989) ÀȐÀǗ ğäƎϘÅţä Ž ƙŸɳÀȞõä ƙä
ȳÀȝ ÈÆɸÀÊÀõä Ž ÆȽÀÎţä ȝÀǨÀţä ĞȓäÀţä ȯÆȞɳ ɃǗ ĞʐÀȓǗ ·ǥøØÀɳ ĞɳŸȞõ ȳÆơ ɄøϘõäʂ
ȡɳ 186ʂ .*P. entellus* ȡɳ 86) ÀèÀÆÊɸ 1.046 ȼõÀƤǗ Àɳ ȷǘʐ ÛȼϘŸǩ ɄøϘõä ğäʐÀÊõäʂ Û1957
ȡɳ ǳʐÀǲʐÀä âʂƘÀõä åÀÀϘèä Æʂ Û1973 – 1962 ȡɳ ǥÀϘÀõä ȯŸǹ ǨǨÀɳ Æʂ (ȝǶÎţä õÀÒţä
.(Sreenivasan *et al.*, 1986) ÀǶÎɳ ÀõÀÒɳ 13ʂ P entellus 118

8 3

Pavri,)

.(1989

11 – 6

21 – 9

12 – 2

%10 %5

Webb and)

.(Burston, 1966

1957

.(Iyer *et al.*, 1960)

22 14

ecosystem

[illegible] (Varma, 1989) [illegible] *turturis* [illegible] Argasidae [illegible] *Ornithoros chiropterphila* .(Harwood and James, 1979) [illegible]

[illegible] 493 [illegible] 1,260 [illegible] .(Harwood and James, 1979) [illegible] %85 [illegible] 4.668 [illegible] biota [illegible] .(Banerjee and Bhat, 1977)

[illegible] *Presbytis* [illegible]

[illegible] *Suncus murinus* (shrew [illegible]) [illegible] porcupine [illegible] *Rattus blanfordi* [illegible] .(WHO, 1985) [illegible] .*P. entellus* [illegible]

[illegible]

[illegible] 10 [illegible]

[illegible] %72.5 [illegible] %59 [illegible] Dandawate) [illegible] %1.8 [illegible]

.(*et al.*, 1980

[illegible]

[illegible] %100 [illegible] %70 [illegible] langat[1]

[illegible] 18

.(Thind, 1981) [illegible]

.(Chin, 2000) [illegible]

## [illegible]


Banerjee, K., H.R. Bhat. Correlation between the number of persons suffering from Kyasanur Forest disease and the intensity of infection in the tick population. *Indian J Med Res* 66:175–179, 1977.

Bhat, H.R. A brief history of Kyasanur Forest disease. *NIV Bull* 1:1–4, 1983. Cited in Pavri, K. Clinical, clinicopathologic, and hematologic features of Kyasanur Forest disease. *Rev Infect Dis* 11(Suppl 4):S854–S859, 1989.

Chin, J., ed. *Control of Communicable Diseases Manual*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 2000.

Clarke, D.H., J. Casals. Arboviruses: Group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Dandawate, C.N., S. Upadhyaya, K. Banerjee. Serological response to formolized Kyasanur Forest disease virus vaccine in humans at Sagar and Sorab talukas of Shimoga district. *J Biol Stand* 8:1–6, 1980.

Downs, W.G. Arboviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans. Epidemiology and Control*. New York: Plenum; 1976.

Fiennes, R.N. *Zoonoses of Primates. The Epidemiology and Ecology of Simian Diseases in Relation to Man*. Ithaca: Cornell University Press; 1967.

Harwood, R.F., M.T. James. *Entomology in Human and Animal Health*, 7th ed. New York: Macmillan; 1979.

Iyer, C.G., T.H. Work, D.P. Narasimha Murthy, *et al.* Kyasanur Forest disease. Part 7. Pathological findings in monkeys *Presbytis entellus* and *Macaca radiata*, found dead in the forest. *Indian J Med Res* 48:276–286, 1960.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.


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[1] [illegible] langat [illegible] *Haemafhysalis papuana* [illegible]

Pavri, K. Clinical, clinicopathologic, and hematologic features of Kyasanur Forest disease. *Rev Infect Dis* 11(Suppl 4):S854–S859, 1989.

Rhodes, A.J., C.E. van Rooyen. *Textbook of Virology for Students and Practitioners of Medicine*, 4th ed. Baltimore: Williams & Wilkins; 1962.

Sreenivasan, M.A., H.R. Bhat, P.R. Rajagopalan. The epizootics of Kyasanur Forest disease in wild monkeys during 1964 to 1973. *Trans R Soc Trop Med Hyg* 80:810–814, 1986.

Thind, I.S. Attenuated Langat E5 virus as a live virus vaccine against Kyasanur Forest disease virus. *Indian J Med Res* 73:141–149, 1981.

Varma, M.G. Tick-borne diseases. *In*: World Health Organization. *Geographical Distribution of Arthropod-borne Diseases and their Principal Vectors*. Geneva: WHO; 1989.

Webb, H.E., R.L. Rao. Kyasanur Forest disease. A general clinical study in which some cases with neurological complications were observed. *Trans R Soc Trop Med Hyg* 55:284–298, 1961.

Webb, H.E., J. Burston. Clinical and pathological observations with special reference to the nervous system in *Macaca radiata* infected with Kyasanur Forest disease virus. *Trans R Soc Trop Med Hyg* 60:325–331, 1966.

Work, T.H., F.R. Rodriguez, P.N. Bhatt. Virological epidemiology of the 1958 epidemic of Kyasanur Forest disease. *Am J Public Health* 49:869–874, 1959.

World Health Organization (WHO). *Viral Haemorrhagic Fevers. Report of a WHO Expert Committee*. Geneva: WHO; 1985 (Technical Report Series 721).

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## LASSA FEVER ʝɀǗ ĂDŽѲ

### ICD-10 A96.2

*ǦèşKÀöä* ÈÀDZ БǗ ɄȶǪÀ ȣÆÎöä ǯşåÂŋ ȧÀÛöä åÀÀŋ ƙǤɫä ɃşÀǿø âşƘʐ ˸ğÀƋǤÊöä 150 – 80 ÈĿÕÀ ÛȯÀÒï ɟä åÆȞǪŋ ȷʐÀKÀöä ·ǦĪŶŋÀöä ğÀèşKÀöä ǦŶĿÔʐ Û*Arenavirus ǦĪŶŋÀöä* ʔȶΣä ÀŢǫä) ǦȶHǀÎöä ğÀÀŢÀţäş ğÀǤÀǾȶŶö âÀÊǵ ʐƮʐ ÕöǾöş ÛɄȶHǀì ȣŸȡ ¢öş ÛäÀÛç ÙǤkÀÀ ·(ǦĪŶŋÀöä ğÀèşKÀöä ǦŶĿÔʐ ğäÂĿư ȯʐǵ ŌĿòÀÀǪöä ȡŋ ÆÀÂţ ǦĿʐÂøÀöä ǦĿÆǪÀDZøɟä ·ɃşÀÀȶŶöä ğÀĿȶĿÎţäş ÀÀHǀÊöä āÀƮǪöä ÆǤÊÀ ɃǾöä ŌŋÀȞöÀä ǦÀÆȐǪÊţä ǦĿǵÀÀöä ȡŋ âşKÀöä *ÿʐǪÊţä)* öäÆǫɟä åÆȞǪţä æÀɀä ȡŋ ţʐǫ şǗ āÀȓ ȡŋ ĘĿǤŋäÃʐŋ Ž ĳÆDZ ¢æÀÎŋ âşƘʐ åÀÀǪèä äǾT åäÆȓǗ ğÆDZş Æęş ÛĘĿǤŋäÃʐŋ âşƘʐ ɄƧ Æęş Û(*Mastomys natalensis ŌĿǫɟä* ÀȠǗ âşƘʐ åÀÀǪèä ÀȶÕ ·ĺȓÀư ȷÀÕ ȷǗ ȣÀȞÀ ɍ ¢ÀÒöş ÛɃʐäÀǤʓä ȡŋ ȷÀÊǫǗ Ž âşKÀöä ÀĿÕÀÂʐǗ ǦÀøʐƮP Ž *Praomys* ô øÀÒöä ȡŋ Àèɍ âşKÀæ ǦÀÆȐǪÊţä ǦĿǵÀÀöä ȡŋ ÙǤkÀÀ .(Odend'hal, 1983) ʔÛèʐöä

[illegible] (Chin, 2000) [illegible] (WHO, 1985) [illegible]

[illegible] 1969 [illegible] index patient [illegible] 1975 [illegible] 1969 [illegible] 1972 – 1970) [illegible] (1975) [illegible] (1975, 1974, 1970) [illegible] (1975 – 1973 [illegible] (Saluzzo *et al.*, 1988) [illegible] 1972 – 1970 [illegible] %66 [illegible] %20 [illegible] (Casals, 1976; Monath, 1975a) %36 [illegible] %1 [illegible] %20 [illegible] %10 [illegible] (CDC, 2000)

[illegible] index cases [illegible]

[illegible] 63 [illegible] (Fraser *et al.*, 1974) %5 [illegible] 100.000 [illegible] (Monath, 1987) [illegible] (CDC, 2002) [illegible] 5.000 [illegible] 300.000 [illegible] 458 [illegible] 5 [illegible] 10 [illegible] 281 [illegible] 23 [illegible] 1966 – 1965 [illegible] 48 [illegible] %11 [illegible] 5 [illegible] Monath,) [illegible] %3,5 [illegible] .(1975a

[illegible] %52 [illegible] %8 [illegible] .(McCormick *et al.*, 1987 and 1987a) [illegible] 15 [illegible] (%25 – %55) [illegible] (%7 [illegible] %4) [illegible] %13 – %12 [illegible] .(Lukashevich *et al.*, 1993) [illegible] .(WHO, 1985) [illegible]

[illegible]

[illegible] 15 [illegible] 641 [illegible] 1972 [illegible] 10 [illegible] 82 [illegible] %17 [illegible] %39 [illegible] %3.7 [illegible] %79 [illegible] .(Keenlyside *et al.*, 1983) [illegible]

[illegible] 3 [illegible] 7 [illegible] %80 [illegible] apathetic [illegible] %50 [illegible] %30 [illegible] 20 [illegible] 10 [illegible]

[illegible] et al.,) [illegible] .(1982

[illegible] 16 – 10 [illegible] WHO,) [illegible] (Johnson et al., 1982) .(1985

[illegible] %20.4 [illegible] 10 [illegible] 20 [illegible] .(Sharp, 1982) [illegible] 14 – 0 [illegible] 1978 [illegible] 60) [illegible] .(WHO, 1985) [illegible] 30) [illegible] .(Fisher-Hoch et al., 1992)

[illegible] race [illegible] viruria [illegible] Calomys callosus [illegible] .(Johnson, 1981) [illegible] %100 [illegible]

(Demartini *et al.*, 1975)

(Chin, 2000)

14

16

1970

[illegible] [14] [illegible] Vero [illegible] [32] [illegible] seeding [illegible]

[illegible] [10] [illegible] [7] [illegible] M [illegible] G [illegible] (Chin, 2000) [illegible]

[illegible] (Holmes *et al.*, 1990) [illegible] 10 [illegible] 600 [illegible] 4 [illegible] 4 [illegible] 400 [illegible] 9 – 6

[illegible] *et al.,* 1990) [illegible]

[illegible]


Buckley, S.M., J. Casals. Lassa fever, a new virus disease of man from West Africa. 3. Isolation and characterization of the virus. *Am J Trop Med Hyg* 19:680–691, 1970.

Carey, D.E., G.E. Kemp, H.A. White, *et al.* Lassa fever. Epidemiological aspects of the 1970 epidemic. Jos, Nigeria. *Trans R Soc Trop Med Hyg* 66:402–408, 1972.

Casals, J. Arenaviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Casals, J. Arenaviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans*, 2nd ed. New York: Plenum; 1982.

Casals, J., S. Buckley. Lassa fever. *Progr Med Virol* 18:111–126, 1974.

Chin, J., ed. *Control of Communicable Diseases Manual*. 17th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 2000.

Demartini, J.C., D.E. Green, T.P. Monath. Lassa fever infection in *Mastomys natalensis* in Sierra Leone. Gross and microscopic findings in infected and uninfected animals. *Bull World Health Organ* 52:651–663, 1975.

Fisher-Hoch, S.P., S. Gborie, L. Parker, J. Huggins. Unexpected adverse reactions during a clinical trial in rural West Africa. *Antiviral Res* 19:139–147, 1992.

Frame, J.D., J.M. Baldwin, Jr., D.J. Gocke, J.M. Troup. Lassa fever, a new virus disease of man from West Africa. I. Clinical description and pathological findings. *Am J Trop Med Hyg* 19:670–676, 1970.

Fraser, D.W., C.C. Campbell, T.P. Monath, P.A. Goff, M.B. Gregg. Lassa fever in the Eastern Province of Sierra Leone, 1970–1972. I. Epidemiological studies. *Am J Trop Med* 23:1131–1139, 1974.

Henderson, B.E., G.W. Gary, Jr., R.E. Kissling, J.D. Frame, D.E. Carey. Lassa fever. Virological and serological studies. *Trans R Soc Trop Med Hyg* 66:409–416, 1972.

Holmes, G.P., J.B. McCormick, S.C. Trock, *et al.* Lassa fever in the United States. Investigation of a case and new guidelines for management. *New Engl J Med* 323:1120–1123, 1990.

Johnson, K.M. Arenaviruses: Diagnosis of infection in wild rodents. *In*: Kurstak, E., C. Kurstak, eds. *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Johnson, K.M., J.B. McCormick, P.A. Webb, J.W. Krebs. The comparative biology of Old World (Lassa) and New World (Junin-Machupo) arenaviruses. *In*: Pinheiro, F.P., ed. *Simposio Internacional sobre Arbovirus dos Tropicos e Febres Hemorragicas*. São Paulo: Conselho Nacional de Desenvolvimento Cientifico e Tecnologico; 1982.

Keenlyside, R.A., J.B. McCormick, P.A. Webb, E. Smith, L. Elliot, K.M. Johnson. Case-control study of *Mastomys natalensis* and humans in Lassa virus-infected households in Sierra Leone. *Am J Trop Med Hyg* 32:829–837, 1983.

Lukashavich, L.S., J.C. Clegg, K. Sidibe. Lassa virus activity in Guinea: Distribution of human antiviral antibody defined using enzyme-linked immunosorbent assay with recombinant antigen. *J Med Virol* 40:210–217, 1993.

McCormick, J.B., I.J. King, P. Webb, *et al.* A case-control study of the clinical diagnosis and course of Lassa fever. *J Infect Dis* 155:445–455, 1987.

McCormick, J.B, P.A. Webb, J.W. Krebs, K.M. Johnson, E.S. Smith. A prospective study of the epidemiology and ecology of Lassa fever. *J Infect Dis* 155:437–444, 1987a.

Monath, T.P. Lassa fever: Review of epidemiology and epizootiology. *Bull World Health Organ* 52:577–592, 1975a.

Monath, T.P. Riesgos biológicos asociados a la presencia de roedores *Mastomys*. *Crónica de la OMS* 29:258–259, 1975b.

Monath, T.P. Lassa fever: New issues raised by field studies in West Africa. *J Infect Dis* 155:433–436, 1987.

Monath, T.P., V.F. Newhouse, G.E. Kemp, H.W. Setzer, A. Cacciopuoti. Lassa virus isolation from *Mastomys natalensis* rodents during an epidemic in Sierra Leone. *Science* 185:263–265, 1974.

Odend'hal, S. *The Geographical Distribution of Animal Viral Diseases*. New York: Academic Press; 1983.

Saluzzo, J.F., F. Adam, J.B. McCormick, J.P. Digoutte. Lassa fever virus in Senegal. *J Infect Dis* 157:605, 1988.

Sharp, P.C. Lassa fever in children. *J Infect* 4:73–77, 1982.

Troup, J.M., H.A. White, A.L. Fom, D.E. Carey. An outbreak of Lassa fever on the Jos Plateu, Nigeria, in January–February 1970. A preliminary report. *Am J Trop Med Hyg* 19:695–696, 1970.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Lassa fever (last updated 1 April 2000). Accessed 23 January 2003. Available at www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/lassaf.htm

White, H.A. Lassa fever. A study of 23 hospital cases. *Trans R Soc Trop Med Hyg* 66:390–401, 1972.

World Health Organization (WHO). *Viral Haemorrhagic Fevers, Report of a WHO Expert Committee*. Geneva: WHO; 1985. (Technical Report Series 721).


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## LOUPING ILL ăŖżƅǁɛ ƅɛqǁɛ

### ϸɑǀŎɛ ɋɛϸƅǁƑƓ üŊĵƅǆƊŽǁɛ Ĭ ƨŊϸĭƻǁɛ ƵƑƉŽɋǁɛ ƒƑŊĦǁɛ ICD-10 A84.8
### ICD-10 A84.8 Other tick-borne viral encephalitis

·ÿİÀɋĵä Ž ƟǝäşÆĤöä ţİÅÀöäş ȟİÀŋÆöä āİÀƮɊöä ˸ğİÀżǻāÀţä

*gÄÀÔţä ĞèşKÀöä* ÈÀDZ ȡŋ ƙĢŧä ƂşİǂΦø âşƘʒ ʒŁş ÛƂÂÀŌöä öäÆöä âşƘʒ ˸ğİÆĢĢÊöä ğİèşKÀöä ĞŸÆÔʒ ȡŋ Û(ğİÆŸÔÀţİæ ĞözŌÀţä ĞèşKÀöä ȡŋ ᴮ Ğɜʒŧ Ōä İŌæİè) *flaviriras* ƂǗ ƟŧϘÅk ƟøϘöä gÄÀÔţä ğİèşKÀöä Ōõ ŌŌφ Ź ÆŌö ·(İŌæİè ĞÆäİÅÛöä ğİèşKÀöä) gÄÀÔţä ĞŸÆÔʒ ƂǗ ĞÆäİÅÛöä ğİèşKÀöä ĞŸÆÔʒ ȡŋ İŌæİè ğİÆŸÔÀţİæ ĞözŌÀţä ĞèşKÀöä ȡŋ ᴮ Ğɜʒŧ Ōä

[illegible]

[illegible] (1993) [illegible] %95 [illegible] %98 [illegible]

[illegible] 37 [illegible] Smith and Varma, 1981) [illegible] 11 [illegible] 26 [illegible] .(Davidson *et al.*, 1991 [illegible] 7 [illegible] 5 [illegible] 134 [illegible] 15 [illegible] 12 [illegible] 7 [illegible] 150 [illegible] 8 [illegible] .(Davidson *et al.*, 1991) [illegible] (*Allces alces*) elk [illegible] (*Cervus elaphus*) [illegible]

shrew [illegible] (*Apodemus sylvaticus* [illegible]) [illegible] *Lagopus lagopus*) [illegible] grouse [illegible] (*Sorex araneus*) .(Bannatyne *et al.*, 1980) [illegible] (*scoticus* [illegible] %5 [illegible] %4 [illegible] %1 [illegible] .(Blood and Radostits, 1989) %60 [illegible] 3 [illegible]

[illegible] 8 – 2 [illegible] 12 – 2 [illegible] 5 [illegible] Smith) [illegible] .(and Varma, 1981 [illegible]

[illegible] 18 – 6 [illegible] apathy [illegible] hopping [illegible] prostrate [illegible] P [illegible] %50 [illegible]

[illegible] *Ixodes ricinus* [illegible]

[illegible]

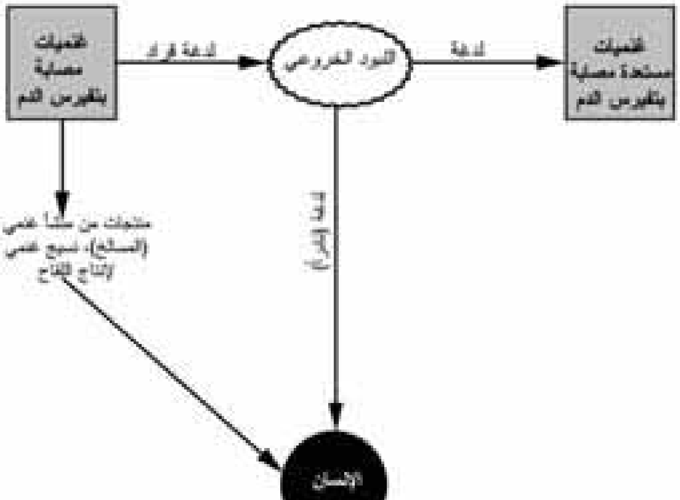
*Lagopus lagopus*) [illegible] (*scoticus* [illegible] 5.5 brood [illegible] 0,6 [illegible] .(Reid *et al.*, 1978) [illegible]

[illegible] (17 [illegible] concomitant [illegible]

[illegible] .(Smith and Varmn, 1981) [illegible]

Lagopus lagopus) Àƥǰä ǯƺƬÊÛöä ÆÀƺ ǫÀƺ ʔƺǪÊŋ Ƀæ ÿấ âƘÀǩ ấƺǄş ǈɖǿş ·ğÀÆƭÄ8öä ɉǰ ÛÙŐƺ âşƘÀŸö Ǩęűŋ ǈÅȒƭõ ɉƺÒǩ ÆŐƺ ğäấäÀŐöä ʔşÆȞö ɄÀÒÀ Àŋ (scoticus äØȽ Ž ĞȑäÀƫä ȸŋ ƺÀǩÀƫä ʔƺǪÊƫä ƘÎÀ ·ĞöÀȞÀöä ɃÂÀŐöä ŏäÆöä øűæ Ž ĞƺÀÊæ ÒęÀǪǩ ȼǩÀƬP ȯÀņấǗ ØÀŋ ǗÆæ ȼǫǗ ȸȚÀş ·ÄÆĞÊǫ ǬÀÆǵ âşƘÀöä ƺŋ ȼèÀǪ ɉǗş ÄÆÊÆǿø ÄÀƺǪ ÈÆö ȼǫǗ БǗ ƘÛöä ɉäøşấş ấäÀŐöä ǥÀƬP ȸŋ ÆÀÂÀ ɃØöäş ÛÀÎƺ ƺèÀǪöä ɉÀŐöä Ž äÆÀŸǪÒèä БǗ ÿÀÀɖǰä ĞÆæÀǩ
.(Reid *et al.*, 1978) ĞÆǫäƺƩΣä ƫäƺǫǰä ȸŋ ấÆƺ Ž âşƘÀöä

·ȯÀŐǪɍä ĞŐŸǵ ÛɃÂÀÀŐöä ŏäÆöä :17 ŌȮÎöä



âƘÀǪæ ĞæÀÔŋ ÿÀÀɖǗ ʔŸƺ ʔØ8ǪǩÀŋÆÀƺ âşƘÀöÀæ ĞÀÆȞÀŋ ğäşäøƺΣäş ğÀęƘöä ǴĞÔǩ БÀǪöä ƺÆæÀöä Ž ÿÀÀɖǰä БǗ ȼŸÖÀÀ Ƀǿöäş ấäÀŐöä Ž (ɄøǪÎÀ) ŏÀǪÎöä âşƘÀöä ɄȒƹ ·ÿÆöä ȘƺÀơ :ȒƐƫä ƺƺ ÈÆöş ÛŌęÀÀöä äØȽ Ž ŌǵäÀƫä ƺƺ ǈǪÀ ȯÀŐǪɍä ɉǗ Æõűǩ .(Martin, 1981) âşƘÀöä ʔŸƺ ÛÿÆöä âƘÀǪæ äÀÔŋ ɉäƺǵ ʔŸƺ ʔØ8ǪǩÀŋÆÀƺ ĞÀÆȞÀŋ ǴĞÔǩ ɄøǪöäş ÛĞęÀÀ ÙŐƺ ƺÆæÀèǗ 3 ɄȒƹ ÀƬŸņş Ûğäƺƺè 3 ấäÀŐöä Àƭƺ ʔÆŋ ·Ğ8öÀĞöäş ŏäøƺΣä øäƺÙǗ ȯŸņ ȸŋ ğÀ8öÀĞöä ŌȒÀǩ ƙǵ Ž ÛğƘ8ò ğÀǫäƺÆǵ ʔŸƺ ğäøäƺΣäş ğÀęƘöä ʔØ8Ǫǩ ·Àŋ ɃƺǪ Ž
.(Davidson *et al.*, 1991) ğƘĞÒöä ğÀǫäƺÆΣä

[illegible] (Bunnatyne, 1980) [illegible] [6] [illegible] [13] [illegible] [5] [illegible]

[illegible] .(Davidson *et al.*, 1991) [illegible]

[illegible]

## ŬøШЄþøĎǁЄ


Bannatyne, C., R.L. Wilson, H.W. Reid, D. Buxton, I. Pow. Louping-ill virus infection of pigs. *Vet Rec* 106:13, 1980.

Blood, D.C., O.M. Radostits. *Veterinary Medicine, A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats, and Horses*, 7th ed. London: Baillière Tindall; 1989.

Davidson, M.M., H. Williams, J.A. Macleod. Louping-ill in man: A forgotten disease. *J Infect* 23:241–249, 1991.

Gao, G.F., W.R. Jiang, M.H. Hussain, *et al.* Sequencing and antigenic studies of a Norwegian virus isolated from encephalomyelitic sheep confirm the existence of louping ill virus outside Great Britain and Ireland. *J Gen Virol* 74:109–114, 1993.

Goldblum, M. Group B arthropod-borne viral diseases. *In*: van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Gordon, W.S. Louping-ill in animals and in man. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain; Proceedings of a Symposium Organized by the British Veterinary Association and the British Small Animal Veterinary Association, London, June 1966*. Oxford: Pergamon Press; 1968.

Gordon Smith, C.E., M.G.R. Varma, D. McMahon. Isolation of louping-ill virus from small mammals in Ayrshire. *Nature* 203:992–993, 1964.

Jensen, R. *Diseases of Sheep*. Philadelphia: Lea and Febiger; 1974.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

Martin, W.B. Virus diseases of sheep and goats. *In*: Gibbs, E.P., ed. Vol 1: *Virus Diseases of Food Animals: A World Geography of Epidemiology and Control*. London, New York: Academic Press; 1981.

Reid, H.W., J.S. Duncan, J.D. Phillips, R. Moss, A. Watson. Studies on louping-ill virus (Flavivirus group) in wild red grouse (*Lagopus lagopus scoticus*). *J Hyg* (Lond) 81:321–329, 1978.

Reid, H.W., I. Pow. Excretion of louping-ill virus in ewes' milk. *Vet Rec* 117:470, 1985.

Ross, C.A. Louping-ill in man. *In*: Graham-Jones, O., ed. *Some Diseases of Animals Communicable to Man in Britain; Proceedings of a Symposium Organized by the British Veterinary Association and the British Small Animal Veterinary Association, London, June 1966*. Oxford: Pergamon Press; 1968.

Smith, C.E., M.G. Varma. Louping-ill. *In*: Beran, G.W., section ed. Section B, Vol 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1981.

Stamp, J.T. Some viral diseases of sheep. *In*: Food and Agriculture Organization, Office International des Epizooties. *International Conference on Sheep Diseases*. Rome: FAO; 1966.

Timoney, P.J. Recovery of louping ill virus from the red grouse in Ireland. *Brit Vet J* 128:19–23, 1972.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# LYMPHOCYTIC ăŃĵƑƻĎǂǁЄ ǀƑĪĎĭʅĎǁЄŃ ƑĩƑϴƨǁЄ ƒƑŃǂǁЄ CHORIOMENINGITIS

**ICD-10 A87.2**

.Armstrong ŋφşÀϙÊŋøŬ ŏăắ ꞉ȣ ắăÀţä

[illegible] *Arenavirus* [illegible] 130 – 110 [illegible] *Mus* [illegible] .(*musculus*

[illegible] .(Morita, 1997) [illegible]

[illegible] %10 [illegible] %0.18 [illegible] %1.6 [illegible] 1.000 [illegible] 18 [illegible] (Ackermann, 1982) [illegible]

%8 ... 1.600
7 ...
.(Casals, 1982) ...

... 1971/5 ... 1968/10 ... 47 ...
... 57) ... 12 ... 181 ...
... 1974/4 ... 1973/12 ...

... 41 ... 7.227 ...
...
Ambrosio) ... %6,1 ... %2,4 ...
.(*et al.*, 1994

... 1.149 ...
... %4.7 ...
.(Childs *et al.*, 1991) ...
...
... cytopathic ...
... Transplantable ...
... 1975 – 1973 ... (Jahrling and Peters, 1992) ...
... 65 ...

[illegible] .(Gregg, 1975) [illegible] 82 [illegible] %10 [illegible] .(Dykewicz *et al.*, 1992) [illegible] .(Johnson, 1990) [illegible]

[illegible] .(*Mus musculus* [illegible]) [illegible] %40 [illegible] .(*Apodemus sylvaticus* [illegible]) [illegible] %50 [illegible] (*Mesocricetus auratus*) [illegible] .(Lehmann-Grube, 1982) [illegible]

[illegible] 2 – 1 [illegible] relapse [illegible]

[illegible] 21 – 15 [illegible] 3 – 2) [illegible] %95 [illegible] %80 [illegible] 3.000 [illegible] 100 [illegible] myopericarditis [illegible] prenatal [illegible] .(Johnson, 1990) .(Ackermann, 1982) [illegible]

[illegible]

%50 [illegible] %20 [illegible] %50 [illegible] 4 [illegible]

[illegible] 6 – 5 [illegible]

[illegible] .(Thomsen *et al.*, 1982) [illegible] Ahmed *et*) [illegible] .(*al.*, 1987

[illegible] tolerat [illegible]

[illegible] .(Skinner *et al.*, 1976) [illegible]

[illegible] 1990 – 1980 [illegible] 12 [illegible] (tamarin [illegible]) [illegible] (marmoset [illegible]) [illegible]

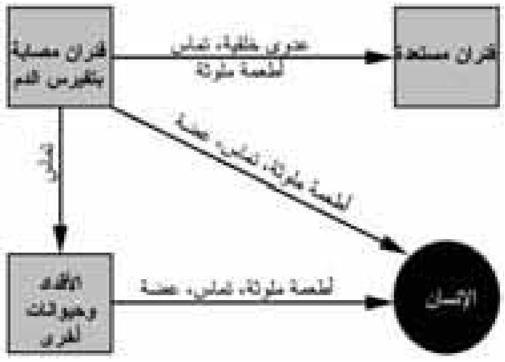
[illegible] *et al.*, 1993) [illegible]
[illegible] (*Callimico goeldii*) [illegible] (*Cebuella pygmaea*) [illegible]
.(Asper *et al.*, 2001) [illegible]

[illegible]
.(Johnson, 1981) [illegible]

[illegible] :(18 [illegible])

[illegible] *culicoides* [illegible] *aedes* [illegible]

[illegible] 18 [illegible]



[illegible] (Barton and Hyndman, 2000)

[illegible] 6 [illegible] M [illegible] (Brezin *et al.*, 2000) [illegible] (Park *et al.*, 1997) [illegible]

[illegible]

[illegible] neurotropic [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Ackermann, R. Infektionen mit dem Virus de Lymphozytaeren Choriomeningitis. *Bundesgesundhbl* 25:240–243, 1982.

Ackermann, R., W. Stille, W. Blumenthal, E.B. Helm, K. Keller, O. Baldus. Syrische Goldhamster als Ubertrager von lymphozytaeren Choriomeningitis. *Dtsch Med Wochensch* 97:1725–1731, 1972.

Ahmed, R., C.C. Kin, M.B.A. Oldstone. Virus-lymphocyte interaction: T cells of the helper subset are infected with lymphocytic choriomeningitis virus during persistent infection in vivo. *J Virol* 61:1571–1576, 1987.

Ambrosio, A.M., M.R. Feuillade, G.S. Gamboa, J.I. Maiztegui. Prevalence of lymphocytic choriomeningitis virus infection in a human population of Argentina. *Am J Trop Med Hyg* 50:381–386, 1994.

Asper, M., P. Hofmann, C. Osmann, J. Funk, C. Metzger, M. Bruns, *et al.* First outbreak of callitrichid hepatitis in Germany: Genetic characterization of the causative lymphocytic choriomeningitis virus strains. *Virology* 284(2):203–213, 2001.

Barton, L.L., N.J. Hyndman. Lymphocytic choriomeningitis virus: reemerging central nervous system pathogen. *Pediatrics* 105(3):E35, 2000.

Brezin, A.P., P. Thulliez, B. Cisneros, M.B. Mets, M.F. Saron. Lymphocytic choriomeningitis virus chorioretinitis mimicking ocular toxoplasmosis in two otherwise normal children. *Am J Ophthalmol* 130(2):245–247, 2000.

Casals, J. Arenavirus. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Casals, J. Arenavirus. *In*: Evans, A.S., ed. *Viral Infections of Humans*, 2nd ed. New York: Plenum; 1982.

Childs, J.E., G.E. Glass, T.G. Ksiazek, *et al.* Human-rodent contact and infection with lymphocytic choriomeningitis and Seoul viruses in an inner-city population. *Am J Trop Med Hyg* 44:117–121, 1991.

Dykewicz, C.A., V.M. Dato, S.P. Fisher-Hoch, M.V. Howarth, G.I. Perez-Oronoz, S.M. Ostroff *et al.* Lymphocytic choriomeningitis outbreak associated with nude mice in a research institute. *JAMA* 267(10):1349–1353, 1992.

Fenner, F.J., E.P. Gibbs, F.A. Murphy, R. Rott, M.J. Studdert, D.O. White. *Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.

Gregg, M.B. Recent outbreaks of lymphocytic choriomeningitis in the United States of America. *Bull World Health Organ* 52:549–554, 1975.

Hotchin, J. The biology of lymphocytic choriomeningitis infection: Virus-induced immune disease. *Cold Spring Harb Symp Quant Biol* 27:479–499, 1962.

Hotchin, J. Vol. 3, Monograph in Virology: *Persistent and Slow Virus Infections*. Basel: Karger; 1971.

Hotchin, J.E., L.M. Benson. Lymphocytic choriomeningitis. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*. Ames: Iowa State University Press; 1970.

Hotchin, J., E. Sikora. Laboratory diagnosis of lymphocytic choriomeningitis. *Bull World Health Organ* 52:555–560, 1975.

Hotchin, J., W. Kinneh, E. Sikora. Some observations on hamster-derived human infection with lymphocytic choriomeningitis virus. *Bull World Health Organ* 52:561–566, 1975.

Jahrling, P.B., C.J. Peters. Lymphocytic choriomeningitis virus. A neglected pathogen of man. [Editorial]. *Arch Pathol Lab Med* 116:486–488, 1992.

Johnson, K.M. Arenaviruses: Diagnosis of infection in wild rodents. *In*: Kurstak, E., C. Kurstak, eds. Vol. 4: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Johnson, K.M. Lymphocytic choriomeningitis virus, Lassa virus (Lassa fever), and other arenaviruses. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc; 1990.

Lehmann-Grube, F. Lymphocytic choriomeningitis virus. *In*: Foster, H.L., J.D. Small, J.G. Fox. Vol. 2: *The Mouse in Biomedical Research*. San Diego: Academic Press; 1982.

Maurer, F.D. Lymphocytic choriomeningitis. *Lab Anim Care* 14:415–419, 1964.

Morita, C. [Epidemiological studies on lymphocytic choriomeningitis virus in Japan.] *Nippon Rinsho* 55(4):886–890, 1997.

Park, J.Y., C.J. Peters, P.E. Rollin, T.G. Ksiazek, B. Gray, K.B. Waites, *et al*. Development of a reverse transcription-polymerase chain reaction assay for diagnosis of lymphocytic choriomeningitis virus infection and its use in a prospective surveillance study. *J Med Virol* 51(2):107–114, 1997.

Skinner, N.H., E.H. Knight, L.S. Buckley. The hamster as a secondary reservoir host of lymphocytic choriomeningitis virus. *J Hyg* 76:299–306, 1976.

Swango, L.J. Lymphocytic choriomeningitis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Thomsen, A.R., K. Bro-Jorgensen, B.L. Jensen. Lymphocytic choriomeningitis virus-induced immunosuppression: Evidence for viral interference with T-cell maturation. *Infect Immun* 37:981–986, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Follow up on hamster-associated LCM infection. *MMWR Morb Mortal Wkly Rep* 23:131–132, 1974.

Wilsnack, R.E. Lymphocytic choriomeningitis. *In*: *Symposium on Viruses of Laboratory Rodents*. Bethesda: National Cancer Institute; 1966. (Monograph 20).

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## MACHUPO HEMORRHAGIC FEVER ħŭǯŖǆǁɛ ǊǦǋ ƪɟǅǏ ĂǅǏɵ

### ICD - 10 A96.1

ắζèɟä âζÀǞöä ǖBolivian hemorrhagic fever ĞĿζÂøÀöä ĞĿÀĿöζĜöä ʔɫΣä ˙ğÀζáäÀţä .Black typhus

*ĞèşƘÀöä* ÈÀǄǄ БǗ ɄɫǬÀ ǗƙÀŎä ɃşÀφø âşƘζ ǗMachupo ζǽζÎǨÀŋ âşƘζ ˙ğÀĿĜĜÊöä ÆÕĦŋ ȸŋ ζȒȝ ζĿş ǗarenaviridueĞĿŸŋÀöä ğÀèşƘÀöä ĞŶĿÔζ Ǘ*arenavirus* *ĞĿŸŋÀöä* .(ĞĿζÂøÀöä ĞĿÀĿǬÀǄǄøɟä ʔɫΣä ˙ÀŢφä) Tacaribe ǼÀøÀõÀǨ

Ž ζŋζõÀş ÂĿÀĿǬÀǗş ɃøζŋÀŋ ɭĿöÀęǗ Ž ĞζşÀĦţä ĞφζǜζţäĘǜÀţä ȝȓζǬ ˙ŽäÀ8ƨä ţàζǬöä .ÀĿÀĿöζĜǣ ɄøÀĿä ĞĦǜÀÕŋ

[illegible] 1959 [illegible]
[illegible] 1.100 [illegible] 5 [illegible] 1964 [illegible]
[illegible] (%24) 260 [illegible] 5.000 [illegible] 4.000 [illegible]
[illegible] 1962 [illegible]
[illegible] 600 [illegible]
[illegible] 1964 [illegible] 1963 [illegible] 122 [illegible] 650)
[illegible] 2500 [illegible]
[illegible] 1963 [illegible]
[illegible]
[illegible] 6 [illegible] 1968 [illegible] 1963 – 1962
[illegible] 9 [illegible]
[illegible] 1971 [illegible]
[illegible]
[illegible] index case [illegible] 5 [illegible] 6
[illegible]
[illegible] 4 [illegible]
[illegible] pathologist [illegible]

[illegible] 4 [illegible] 1971 [illegible]
[illegible] 1975/1 [illegible] 1974/12 [illegible]
[illegible]

[illegible] 1994/6 [illegible]
[illegible]
[illegible] 1994/9 [illegible]
[illegible]

[illegible] (1994).

[illegible] *Calomys* [illegible] (%35 [illegible]) cricetids [illegible] (Jahnson *et al.*, 1978) [illegible]

[illegible] *Calomys callosus* [illegible] 1977 [illegible] (1982.

[illegible]

[illegible] 2 – 1 [illegible] 5 [illegible] °41 – 38 [illegible] (%30 [illegible]) [illegible] 10 [illegible] 6 [illegible] %50 [illegible] (%50 [illegible] %30) [illegible] 9 [illegible] 5 [illegible] furrows [illegible]

[illegible]

[illegible] cricetid [illegible] (Johnson, 1981).

[illegible] (19 [illegible]) [illegible] Proechimys guyannesis [illegible] 122 [illegible] %24 [illegible] Poechimys [illegible] DDT [illegible] 1959 [illegible]

äØĿ ¢ĠĤŸΛ ɃØöä ĿŢţä ø§Æöä *âʐɫŸÕä* ĝåÀæÜ ĞŸþ òŸǹ ȸŋ ŏÀæʐöä äØĿ ĞĦʐÀÒŋ ʣÀʊ ĶĞĴΛ ȸŋ ʐæʐÎĶÀŋ â§ĸʐ åÀÀĢèä ˙ô øäʐÕŸö ĝåÀȒţä ĞŸɫΣä òŸǹ ·ô Àţä ğÀĿəÀæ§ Ž ô øÀÕöä

·ÀŢÔĦʐ Ź ǯæÀƴ 9 ȸŋ 5 òʐæ Ž ŌŋÀĦöä åʐǱ§ ĶĠĢÜ Æ§ ·äøʐèüŋ *Æèʐɫŀ* 17 ȸŋ 13

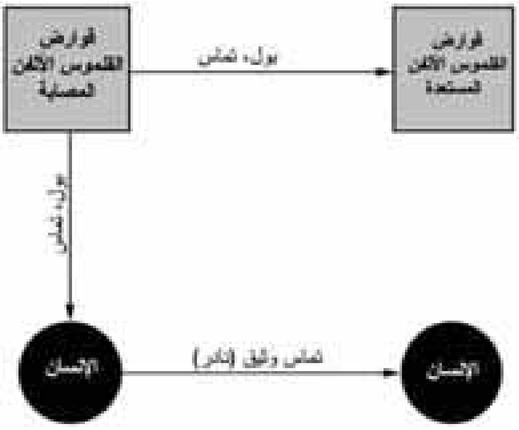
ÒĦʐ Ź Æ§ Ûğ ÀĿŸÔÀţä ȸŋ â§ĸÀöä åäÀÀĢèɍ ŌęÀφ ȸʒ ǪĦĠöä Ž ğɍ§ÀŢ ğÀǱ

Ğèäøƒöä ȻØĿ ĞǱʐĿĢφ ĶφÀõ ·ô øäʐÕŸö ĞĿφäƎöä ğÀĿŸĿÀÛöä ȸŋ ĞòÀǹ Ûǯæʐƴ 25.000 ȸŋ Àǯõɫ

òʐæ Ž â§ĸÀöä ʐĿ ʔ§ÆĦöä øÆÔŋ ɉÜ ·ĞŸəÀÕöä ĝÀÒÀŸö ĘΛÆÔĢöä ȸŋ ÆΛÀţä ɄÛĦΛ Àư ÛĞĿĠŸè

.(Johnoon, 1975) ĞΛÆĦΛţä ô øäʐÕöä

·òÀÕĢɍä ĞÕŸğ – ĞĿʐÂøÀöä ʐæʐÎĶÀŋ ʔþ :19 ŌÒÎöä




ÀɫÀæ Ž ĝåʐǱʐöä ʔÛèʐöä ÀÒΛÀŋÜ ϙʐɯ ĝÆğ§ Ž *ȸÀĢĵä âʐɫŸÕä* åŸĿĢèä ĝÆğ§ ĶŋÀę

ǸΛøÀĢöä ʔŸʒ ȣÀĦĢŸö ĿŢŋ ŷÀŢèüæ ĶŋÀę ÛĞĦÔŸö ĞĿÒΛÀŋĵä ĞĿΛüʐöä ÆĿÀĦţä Ž (MARU)

ĞΛʐɫÀöä ĞĿüÀÅţä ĞüÀèʐæ ÀĿĠΛÀθ ô øÀÕöä ʔÆĦΛ ɉÜ ȸÒɕ ·ĞĿʐÂøÀöä ʐæʐÎĶÀŋ ʔɫΣ ɄĦĿĠÛöä

şÜ ŷÀΛÜ 9 ÀĿÀɫʒ ô øäʐę Ž â§ĸÀöä ĠÕö ÀŋÆΛʒ ·ÒÀÕöä ÈÀφ Ž ōÀĢÎţä ȸÒÊöÀæ§ ĞĿΛφĵä§

ŸĿɫüŋ Àǹ∉ä ƷÔΛöä ĠĠõÜ§ ĿĿʒÀŋ ŸɫƠ ÆÊĢöä ĿĠÀÕĶ ĞΛÆĦΛţä ğÀφäʐĿΣä ƷÔφ ɉüʐ Àǯõɫ

ÀŢʐæ Ž â§ĸÀöä ʣÀü§ ĿĿʒÀŋ ĞŸɫĦĢţä ğÀφäʐĿΣä ĞöÀğ Ž ŷÆöä âĸÀĸ åʐǱ§ ĶĠĢÜ ·ĿĿʒÀŋ

ĿĿʒÀŋ ĞŸɫüţä ğÀφäʐĿΣä ğøʐü ˙ÈÒĦöä ʔŸʒ ·ĞöÆĦĢÊŋ ĿåäÆɍÜ øʐÛĸ Ƀ ÀŢÀÒõ ÛÀőÀĿğ òäʐü

â§ĸÀöä åÀÀĢÊΛ ɉÜ ȸÒɫţä ȸŋ ¢φÜ Ŀȡø ÛŷÆöä âĸÀĸ ÀɫÆΛʒ ϙÆʒ Ƀ§ ĞöÆĦĢÊŋ ĿåäÆɍÜ

[illegible] 6 – 3 [illegible]

[illegible] Vero [illegible]

[illegible] .(Chin, 2000) [illegible]

[illegible] 3.000 [illegible] 60 [illegible]

# ȻØŁ ȷǕ ˙ǦŸǝÀÖöä ǦÕƎÕΣä ŏɀȑ ʔŸʒş ÛȸÖö ˙ǦÀÎǦöä ǥɟÀΣä ţɀęş Ž ǴȑÄş ʒDZäÄǩ ǳÀÖö ÄɅɀÛǫö ǿÄDZ ÕȾǨöä ȷǘɀ ÛʔÄṅǕ ǦEDZɀöɀÒǕ ȣşÄş Ž ĘƎǦÛǫöä ǦǤǨö ǥäöäÄDZɋä ˙ǦɸɀǜɀţäĘǜÄţä Ž ǦȑÄĦţä ǥÄȜȾƨä ƙÔǶǫö

## ǕøɰƐƥøǱǁƐ


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Bond, J.O. *Hemorrhagic Fevers in Latin America*. Paper presented at the Sixteenth Meeting of the PAHO Advisory Committee on Medical Research. Washington, D.C.: Pan American Health Organization; 1977. (PAHO/ACNR 16.3).

Casals, J. Arenaviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Chin, J., ed. *Control of Communicable Diseases Manual*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 2000.

Comisión de Investigación de la Fiebre Hemorrágica en Bolivia. Fiebre hemorrágica en Bolivia. *Bol Of Sanit Panam* 58:93–105, 1965.

Johnson, K.M. Arenaviruses: Diagnosis of infection in wild rodents. *In*: Kurstak, E., C. Kurstak, eds. *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Johnson, K.M., R.B. Mackenzie, P.A. Webb, M.L. Kuns. Chronic infection of rodents by Machupo virus. *Science* 150:1618–1619, 1965.

Johnson, K.M., S.B. Halstead, S.N. Cohen. Hemorrhagic fevers of Southeast Asia and South America: A comparative appraisal. *Progr Med Virol* 9:105–158, 1967.

Johnson, K.M., P.A. Webb, G. Justines. Biology of Tacaribe-complex viruses. *In*: Lehmann-Grube, F., ed. *Lymphocytic Choriomeningitis Virus and Other Arenaviruses; Symposium Held at the Heinrich-Pette-Institut für experimentelle Virologie und Immunologie, Universität Hamburg, October 16–18, 1972*. Berlin and New York: Springer-Verlag; 1973.

Johnson, K.M., P.A. Webb. Rodent-transmitted hemorrhagic fevers. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Johnson, K.M., P.A. Webb, G. Justines, F.A. Murphy. Ecology of hemorrhagic fever viruses: Arenavirus biology and the Marburg-Ebola riddle. *In*: *Proceedings, 3rd Munich Symposium on Microbiology, June 7–8, 1978*.

Mackenzie, R.B., H.K. Beye, L. Valverde, H. Garron. Epidemic hemorrhagic fever in Bolivia. I. A preliminary report of the epidemiologic and clinical findings in a new epidemic area in South America. *Am J Trop Med Hyg* 13:620–625, 1964.

Organización Panamericana de la Salud. Fiebre hemorrágica: Bolivia. *Inf Epidemiol Sem* 47:264, 1975.

Organización Panamericana de la Salud. Fiebre hemorrágica boliviana. *Bol Epidemiol* 3(5):15–16, 1982.

Peters, C.J., P.A. Webb, K.M. Johnson. Measurement of antibodies to Machupo virus by the indirect fluorescent technique. *Proc Soc Exp Biol Med* 142:526–531, 1973.

Peters, C.J., R.W. Kuehne, R.R. Mercado, R.H. Le Bow, R.O. Spertzel, P.A. Webb. Hemorrhagic fever in Cochabamba, Bolivia, 1971. *Am J Epidemiol* 99:425–433, 1974.

Symposium on some aspects of hemorrhagic fevers in the Americas. *Am J Trop Med Hyg* 14:789–818, 1965.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). International notes Bolivian hemorrhagic fever—El Beni Department, Bolivia, 1994. *MMWR Morb Mortal Wkly Rep* 43(50):943–946, 1994.

# MARBURG VIRUS DISEASE ƵƥǋǤƥƑǅ Ƨ ǋƥĭȥ Ƅƹƣ

## ICD-10 A98.3

.green monkey diseaseÀȒǹǰǟ âǺÊǺŏă ŏăǻ ÛǤƵÂøǺŏă ǦÕǺǬǰǟ ʔŁΣă ˙ğǺźâǟÀţă

ǦèşƘǺǟ ÈǺǅ Бǖ ɄŁǬǺ ȧǺÛŏă åǺǺŋ ƙƨǟ ɃşǺø âşƘź ÛǉøźǟøǺŋ âşƘź ˙ğǺƵǤÊŏă ǦźǺȓǖ – ǦȲÔǺŏă ȻǾȽ ȸŁȒǬǩ ÛFiloviridae ǦÛƖăă ğǺèşƘǺŏă ǦȲÔź Ûfilovirus ǦÛƖăă ȼă ÙǤǨǺ ɃǾŏă Û(Reston ȷźǬÊǺø ǦǺøǽ ǺŁȒǬŋ) ɍźǦǺǖ âşƘź – ǉøźǟøǺŋ âşƘź Бǖ 1.000 – 700 ş ǺÛę ÛǺǬŋźǬǺǬ 80 ÈǺǾǺş ǺƘǰõ ȯǺÒǐǰǟ åǼǨǬŋ ȷźǺƘǺŏă ·ǥƘǤõ ǦǅøǼǟ ·ǺɍźǜǺǬŋźǬǺǬ

Ž 1967 ȳǺȝ Бşǰǟ ǥǺŁȲŏ ǉøźǟøǺŋ âşƘź ŏăǻ ÂǺŋ ˙ǫşǼΣăş ŽăǺ8ƨǟ ţăźǬŏă ɄøǬŏă ǦǺǼţă ǈèǟ ȸŋ ȼƧǟ ǾǹǖǼęş ÛǺǺƘǦèş åǺǺ8ȲǟşÛǺǺţǖǟ ğøźǺȮǬǺźş ǉøźǟøǺŋ ȸǺǾŏă ğăƎǬǺţǟ Ž ƙȲŋǺǨŏă Ž ôǺţǟ ǺȚȚǺ ·ǥǺŋ ȯşǰ ȣǺǨǬèǟş ôǺŁţǟ ŌŋǺǨŏă ǺȚǼź åǺǺǬèǟ Cercopithecus ɄøǟźǬǰǟ ǳşåǺǑǟ) ǦÕǺǬǰǟ ŏăǺȒƖǟ ÈǺǺÊǺŏă ŏǺÎǥǖ ȝŋ ǟźȲŋǺǨǩ ȷǺõ ÛǤǺşǖ ǦǺǥ 20 ǨǬǼǥ ·ǺȚ ɃźȲÒŏă ȷǺÊǺŏă ţøǺŋ şǖ ǺȚŁÊǅ ŌǟźèşǺ(aethiops ʔȓǺţă ȷÊǬ şǖ ȳǻ ȝŋ âǺŁǬŏă ǦǅǺǬǬ ǦǺźǬǺǬ ğɍǺǥ 5 ğǺȚş ˙ÕǾǟ Бǖ ǦźǺȓǖ ·ȲǨǺę ǺȚǺŋ 7 ÈǺǺÊǺŏă ǨǨǖ ·ɄÊǺƨǟ âǺŁǬŏă ƎȝǨȲÖǬǟ ʔşǼǨŏă ȷǖ şǼǦǺ ǦèåǺè ǦǺǥ Žş ÛƙǺşǰǟ ȸŋ Ǻşøşǖ Бǖ ǨǺǶǐş ǺǼǺȡşǖ Ž ǺǅźǺõ ǥƘǖ ǦÕÛǺŋ ȸŋ ʔşǼǨŏă øǼÔŋ ǨǺõ ɄøǬŏă ·ǥǼǺȡşǖǟ ɄøǟǺǬǺȝ

ǦǺΣă ǨǺõ ·ʔȓǺţă ǼǥǖÛ ğǺŋş ÛǺǺÕǺǺźǖ âźǺǅ Ž 1975 ȳǺȝ ǦǺÎǟ ğɍǺǥ 3 ȸȝ ŋȲǺ ȷǺǬǺΣă ǺŋǖÛ ÛǺȒǺǺŋ ǴǦÔǺ ȷǖ ŌǦę ƙȝźǦèǖ ǥǼŋ ɃźǺǦȥà Ž ÕǺǩ ǺǼǺǬèǖ ǺǶǺè Бşǰǟ ·Бşǰǟ ǦǺΣă ȝŋ âǺŁǬŏă ǦǅǺǬǬ ʔşǼǨǺǟ ǺǬǼòǖ ǼÕź (ǦȓǺư ǨǺõ ǺƵǺǥǖ) ȷǺǺǹǰǟ ʔȲȝ ȷǺõ ȷǖ åǼȝ ȷǖ ŌǦę ƙȒǺǺţǟ ǼǥǖÛ ğǺŋş ÛǺǺǼõ âǺȡ Ž 1980 ȳǺȝ ȷǺǬǺǥ ǨǬǼǥ Ž ǦȲǨǺę Ƙȡ ǦǺǥ ȸȝ ŋȲǺ ·1987 ȳǺȝ ǺǼǼõ Ž ʔǺǹǖ ǦȲǨǺę ǦǺǥ ǨǬǼǥ ·ÈǺǺÊǺŏă ȝŋ âǺǬ

.(Chin, 2000) 1999 ȳǺȝ ǦȲǨǺę ğɍǺǥ ǫȲǬş Û1987 ȳǺȝ ǦǺùăǺÕȥǼŏă ź8ǬźÒŏă ǦǺøźȚƤ

16: 1 ğăøǺǼȝ ȝŋ ğȲȝǺǺŋ 7 ǺǐǺǦŋȲŏă ɄȝǺǺţǟ ǯǼǬŏă ȳǼǺǬèǟ ǴÊŋ ȣǺǨǬèǟ ˙ǺǺƘǦǼ Ž

[illegible] et al., 1982) [illegible] 481 [illegible] 128:1 [illegible] 499 [illegible] 64:1 [illegible] .(Saluzzo et al., 1982) [illegible] .(WHO, 1984) [illegible]

[illegible] 9 – 4 [illegible] %29 [illegible]

[illegible] 1967 [illegible] 9 – 7 [illegible] 5 – 3 [illegible] %100 [illegible]

[illegible]

[illegible] 136 [illegible] 4 [illegible] (Johnson *et al.*, 1982) [illegible]

[illegible] 1967 [illegible]

[illegible] index case [illegible] (vectoral [illegible]

[illegible] Vero E6 [illegible] Vero [illegible] 10 – 7 [illegible]

[illegible]

[illegible]

[illegible] (CDC, 2000) [illegible] (Simpson, 1978) (overshoe [illegible]) [illegible]

[illegible]

Benenson, A.S., ed. *Control of Communicable Disease in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Chin, J., ed. *Control of Communicable Disease in Man Manual*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 2000.

Borwen, E.T., G. Lloyd, W.J. Harris, G.S. Platt, A. Baskerville, E.E. Vella. Viral hemorrhagic fever in southern Sudan and northern Zaire. Preliminary studies on the aetiological agent. *Lancet* 1:571–573, 1977.

Gear, J.S., G.A. Cassel, A.J. Gear, *et al.* Outbreak of Marburg virus disease in Johannesburg. *Brit Med J* 4:489–493, 1975.

Johnson, B.K., L.G. Gitau, A. Gichogo, *et al.* Marburg, Ebola and Rift Valley Fever virus antibodies in East African primates. *Trans R Soc Trop Med Hyg* 76:307–310, 1982.

Johnson, K.M., J.V. Lange, P.A. Webb, F.A. Murphy. Isolation and partial characterization of a new virus causing acute hemorrhagic fever in Zaire. *Lancet* 1:569–571, 1977.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and

Hygiene; 1985.

Kiley, M.P., E.T. Bowen, G.A. Eddy *et al.* Filoviridae: A taxonomic home for Marburg and Ebola viruses? *Intervirology* 18:24–32, 1982.

Kissling, R.E. Epidemiology of Marburg disease. *In:* Sanders, M., M. Schaeffer, eds. *Viruses Affecting Man and Animals.* St. Louis, Missouri: Green; 1971.

Kissling, R.E. Marburg virus. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Kissling, R.E., F.A. Murphy, B.E. Henderson. Marburg virus. *Ann N Y Acad Sci* 174:932–945, 1970.

Knobloch, J., E.J. Albiez, H. Schmitz. A serological survey on viral haemorrhagic fevers in Liberia. *Ann Virol (Inst Pasteur)* 133E:125–128, 1982.

Saluzzo, J.F., J.P. González, A.J. Georges. Mise en evidence d'anticorps anti-virus Marburg dans les populations humaines du sud-est de la Republique Centrafricaine. *Ann Virol (Inst Pasteur)* 133E:129–131, 1982.

Slenczka, W., G. Wolff, R. Siegert. A critical study of monkey sera for the presence of antibody against the Marburg virus. *Am J Epidemiol* 93:496–505, 1971.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Update on viral hemorrhagic fever—Africa. *MMWR Morb Mortal Wkly Rep* 25:339, 1976.

World Health Organization (WHO). Viral haemorrhagic fever surveillance. *Wkly Epidem Rec* 59:300–301, 1984.

World Health Organization (WHO). *Viral Haemorrhagic Fevers: Report of a WHO Expert Committee.* Geneva: WHO; 1985. (Technical Report Series 721).

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## MAYARO FEVER ǋƥƑĭƑĎŽ ĂĎŽƟ

### ƒ ǋyƓǁƑƓ ƕǁǋƫǆŽ ǌƥƆƪ ƕĭƳǋǆ ƕĭ ƨǋƥĭʒ l ƑĭĎŽƟ ICD-10 A92.8

### ICD-10 A92.8 Other specified mosquito-borne viral fevers

.Uruma ĂŋşøşÛ Ɂƥ ˙ğÀʐåäÀţä

*ǴÀşÀÀöǰä Ǵèş ƘÀöä* ÈÀƨ ɄƫǪÀÀ ƙǑä ɃşÀǫø âşƘʐ ÛşøÀÀŋ âşƘʐ ˙ğÀƐƓÊöä ǴƎǝÀÅÛöä ğÀèşƘÀöä ǴÝƎÔʐ Û(ğÀèşƘÀöÀä ǴöʐŌÀţä Ǵèş ƘÀöä ȸŋ A Ǵʒʐ ƫǑä) *alphavirus* ·(ÀƎǫʐȢǫʐÒƎì Ɂƥ ÀŢǫä) ɄÒƎÝƧ ǴäÀɖ Ɂƥ ŌŋÀĦä ǴÝÔöä ĘƎǫş ʐȽş ÛTagoviridae

ǴƎÊǫÀÀöä ÀǫÀÀäʐɖş ÀƎǤŋʐöʐõş ŌÀäƎöäş ÀƎÀƎöʐä Ž şøÀÀŋ âşƘʐ åÀÀǪèä ˙ŽäÀȢƨä ţäʐǪöä ǥÀĎŽÀƬţä øʐƎÛöä ȸŋ ŌöØõş ÛʐõÀäʐǩş äÆƎÀÀÀǩş ÿÀÀÀƘèş ÛÀƫÀäş Û(Talarmin *et al.,* 1998) âşƘÀöä ȷÛ şÆƓÀ ˙ǴƎƏÀäş ǴƎĎZʐöşƘè ğÀǵʐÊŋ ÆÊǵş ·ǥÆƕǪţä ğÀÀɍʐöä Ž ÀǫÀÀÀÀʐö Ž ·ÀȒÀÛ şƘƓöäş ÀǫÀÀʐɖş ÀÒÀøÀǪèʐõ Ž øşÆÀ

[illegible]
[illegible] %50 [illegible] %10 [illegible]
[illegible] 50 [illegible] 1955 [illegible]
[illegible] 1955 – 1954 [illegible] "jungle fever" [illegible]
%10 [illegible] 400 [illegible]
[illegible] 1978 – 1977 [illegible] %15 [illegible]
[illegible] 4.000 [illegible] %20 [illegible]
[illegible]
.(LeDuc *et al.*, 1981) [illegible]

[illegible] 1962 [illegible] %6.3 [illegible]
[illegible]
.(Talarmin *et al.*, 1998) [illegible]

[illegible]
[illegible] 3 [illegible]
[illegible]
[illegible] 55 [illegible] 1978 – 1977 [illegible]
[illegible]
[illegible] %20 [illegible]
[illegible]
.(Pinheiro *et al.*, 1981) [illegible]
[illegible]

9.000 *Haemagogus janthinomys* 9 26 736 62 1: 82 *Haemagogus janthinomys* *Haemagogus* 368:1 *janthinomys* *Mansonia* *Culex* *Sabethes* *Psorophora* *Aedex* .(Hoch *et al.*, 1981)

1.200 %1.3 585 %5.6 (*Callithrix argentata*) 119 (%27) 32 howler %29 (*Icterus spurious*) Oriloe (*Proechimys*) (*Oryzomys*

[illegible] (*Nectomys*) [illegible] .(Hoch *et al.*, 1981) [illegible]

[illegible] .(Junt *et al.*, 1999)

[illegible] .(Talarmin *et al.*, 1998)

[illegible]

[illegible]


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Casals, J., D.H. Clarke. Arboviruses: Group A. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Groot, H., A. Morales, H. Vidales. Virus isolations from forest mosquitoes in San Vicente de Chucuri, Colombia. *Am J Trop Med Hyg* 10:397–402, 1961.

Hoch, A.L., N.E. Peterson, J.W. LeDuc, F.P. Pinheiro. An outbreak of Mayaro virus disease in Belterra, Brazil. III. Entomological and ecological studies. *Am J Trop Med Hyg* 30:689–698, 1981.

Junt, T., J.M. Heraud, J. Lelarge, B. Labeau, A. Talarmin. Determination of natural versus laboratory human infection with Mayaro virus by molecular analysis. *Epidemiol Infect* 123(3):511–513, 1999.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

LeDuc, J.W., F.P. Pinheiro, A.P. Travassos da Rosa. An outbreak of Mayaro virus disease in Belterra, Brazil. II. Epidemiology. *Am J Trop Med Hyg* 30:682–688, 1981.

Metselaar, D. Isolation of arboviruses of group A and group C in Surinam. *Trop Geogr Med* 18:137–142, 1966.

Pinheiro, F.P., R.B. Freitas, J.F. Travassos da Rosa, Y.B. Gabbay, W.A. Mello, J.W. LeDuc. An outbreak of Mayaro virus disease in Belterra, Brazil. I. Clinical and virological findings. *Am J Trop Med Hyg* 30:674–681, 1981.

Schaeffer, M., D.C. Gajdusek, A. Brown, H. Eichenwald. Epidemic jungle fevers among Okinawan colonists in the Bolivian rain forest. *Am J Trop Med Hyg* 8:372–396, 1959.

Talarmin, A., L.J. Chandler, M. Kazanji, B. de Thoisy, P. Debon, J. Lelarge, *et al.* Mayaro virus fever in French Guiana: Isolation, identification, and seroprevalence. *Am J Trop Med Hyg* 59(3):452–456, 1998.

Tesh, R.B. Arthritides caused by mosquito-borne viruses. *Annu Rev Med* 33:31–40, 1982.

Work, T.H. Semliki Forest-Mayaro virus disease. *In:* Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

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## MEASLES

### ICD - 10 B05

·õãÀŧΣã ĞĜÔΣã ÛĞĿèÀÕõã ĞĜÔΣã Û(Morbilli, Rubeola) ĞĜÔΣã ·ğÀʐáãÀţã

*Ğèş<ÀÕã* ÈÀƨ ɄŧϘÀ ƙŎã ɃşÀφø âşƘʐ Û*Measles virus* *ĞĜÔΣã* *âşƘʐ* ·ğÀÆĜĜÊõã ÈÀφ ȸŧŘϘÀ .Paramyxoviridae ĞĿφÀüÀÁţã ğÀèşƘÀõã ĞŸÆÔʐ Û*Morbillivirus* *ĞĦĜÔΣã* ȷʐ3ÀÛõãş (Carré ȼÀøÀõ õãá) distemper ôãÀŧŸõ ÃÀÆŘϘÊŋ ĞÛĞÀţã ğÀèşƘÀõã ÈÀƨã .(rinderpest Ʉìãʐţã ȷʐ3Àü) ɃÀÕĞõã

·øÀÎϘφŧã ɄţÀ3 ·ŽãÀ8ƨã ţàʐϘõã

Ûğ À ǵÀÕŸõã ÿãÆÁϘèã ŌĜę ĞõʐÀÛõã Ž ÃÆDZ ĞĦəÀì ĞĜÔΣã ĶφÀõ ·ȷÀÊφqã Ž ϙşÆΣã ·ȴŁÀŧ3 ȸŋ ǵÀìÀĦõã ãʐ8ŸĜÀ ȷÛ ŌĜę ôÀţÀã ȷʐãÀÔÀ ȯÀÀüɉã Ōõ ȸŋ %90 ȸŋ ÀǰõÛ ȷÀõş

[illegible] .(Beneson, 1990) [illegible] 2000 [illegible] 817.161 [illegible] 777.000 [illegible] 40 – 30 [illegible] (%90 ≥) [illegible] 100 [illegible] 50.000 [illegible] 1999 [illegible] 2000 [illegible] 34.971 [illegible] %50 [illegible] .(WHO, 2002) 2000 [illegible] 36.306 [illegible] 1981 [illegible] 300.000

[illegible] 537 [illegible] 2001 [illegible] D6 [illegible] 1990 [illegible] %99 [illegible] 1995 [illegible] 2001 [illegible] 2001 – 1997 [illegible] indigenous [illegible] 2001 [illegible] .(CDC, 2002) 2002 [illegible]

[illegible] (*M. mullata* [illegible]) [illegible]

[illegible] (*Colobus guereza*) colobus [illegible] (*M. fascicularis* (*Saguinus Oedipus*) [illegible] (*Presbytis cristatus*) [illegible] .(*Callithrix jacchus*) [illegible] .(Montrey *et al.*, 1980) [illegible] .(Soave, 1981) %100 [illegible] 170 [illegible] (*Presbytis entellus*) (Langur [illegible] 195 [illegible] .(Bhatt *et al.*, 1966) [illegible] Kalter *et*) [illegible] (*Papio*) [illegible] 87 [illegible] 65 [illegible] .(*al.*, 1967 [illegible] 3 [illegible] 1985 [illegible] 3 [illegible] 5 [illegible] (%41.3) 36 [illegible] 7 [illegible] 3 [illegible] 87 [illegible] .(Welshman, 1989) [illegible] (84) [illegible]

[illegible] 18 – 8 [illegible] 7 – 4 [illegible] 100.000 [illegible]

1990)

(Karstad, 1981)

P.)

31 24 (cristatus

9 – 6

(Montrey et al., 1980)

(C. guereza) colobus

(Hime et al., 1975)

87 63

ventral

7

(Welshman, 1989)

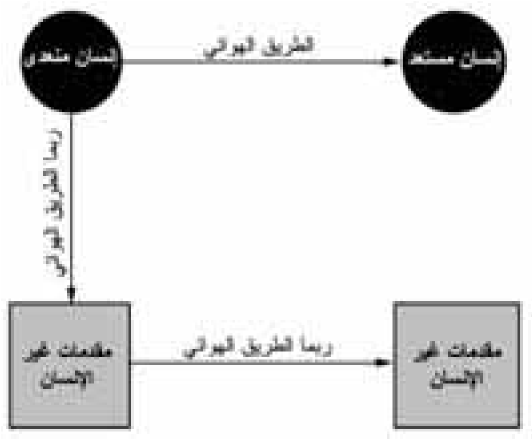
(20

(Chin, 2000)

4

·ĞDZÄφ ŌÒÎä äζĦÛÕ ȸÀØöä ÆĘÔΛ ғ ÕöØŏş ÛġÄĘΣä
ȷÄÊφqä Ƙɖ ğĀŋÆÕţä Ž ğғÄΣä Ōõ Ž ʔşÆĦöä øÆÔŋ ȣäÄĦQèä ȸÒŧţä ȸŋ ȼφǖ ȴɖøş
ȸŋ ·ȷÄÊφRö ôÄĦQöä ȯŸǹ ȸŋ ʔşÆĦöä ÆÊQÒǩ ğĀφäζĘΣä ȻØĿ ȷǖ БǖǨÎǩ ĞÄĘĞöä ȷǚζ
Yamanouchi *et*) ȷÄÊφqä Ž ȗøQöä ĞÕÄÄÛöä ȄÄÄä ȄĘφÄÊÄöä Ž ʔşÆĦöä ÆÊQÒǩ ȷǖ ŌŧQǂä
îÄÄęǖ Ž ȝȑζǩ ĀŋÆȝ Äèɉä ȸŋ ģƘÔę ģÄQζ ÆĦä ĦĞöÄɖ ĞÄÆĦÄŋ ȄĘφÄÊÄöä ĜĞÔǩ ·(*al.*, 1969
Welshman,) ȯÄÄüɉä ȝŋ âÄqÎ ʔŸȝ ĜĞÔǩş ÄÎĞöä ȷÄÛĘQèä ãÄę ģƘȣȍ ğĀȝζŧƒ ȸŧȑ
·ÄÎĞöä БǖȄĘφÄÊÄöä ȸŋ ʔşÆĦöä ȯÄÕQφä ģǻζȝ ÆĿÄÎǩ Ɓ ·(1989

·ȯÄÕQφғä ĞÕŸģ ⁻ ĞĞÔΣä :20 ŌÒÎöä




·ĞĘəÄæζöä ğÄĘÛĦţäş ĞÄÄÄÊöä ģÆĿÄÎţä ʔŸȝ ȷÄÊφqä Ž ȌĘÁÎQöä ÆŧQĦΛ :ȌĘÁÎQöä
åäÄÄQèä ȸÒς ·ÄĘDZζöşƘÊöÄæ şǖ âşƘÄöä åäÄÄQèÄæ ȗȝζφ ȌĘÁÎǩ ʔŸȝ ȯζÔΣä ȸÒς
ģÄQÀöä ȯŸǹ æζǹüţä ȯζĞöä şǖ ȳÆöä ȸŋ şǖ ĞĘŋζĦŸæ ğғÄÊɖ ȸŋ ĞĘDZæÊÄöä ţøäÂţä Ž âşƘÄöä
ãŸÕφғä ğÄĞφq ȗDZζöşƘÊöä ȌĦÄöä ʔÄƶ ·ĜÄÛöä ȸŋ Бşɉä ȳÄÄɉä şǖ ĞÄøåÄĞöä
øÄĞQǹғä ȳÆÅQÊÄş ÛȻζŋÆöä îäÄQöä ÜĘĞǯǩ şǖ ĞŧŧQţä ǨĘĞǯǩ ğäøÄĞQǹä ȳäÆÅQèÄæ ȗDZζöşƘÊöä
·ȗÊĘəø ŌÒÎæ ȄĘφÄÊÄöä Ž Ƙǹɉä

ȻζÄÊöä ţζęζöä ȌęÄÄǩ ·Potent ĞÄζę ĞÄĿζŋ Ğĝģ ĞĘèşƘζ ğĀģÄÕö ĦöÄģ Äζζǩ :ĞĦζÄÒţä

[illegible] 1980 [illegible] 14000 [illegible] 500000 [illegible] (1982) [illegible] lapse [illegible] .(Black, 1984) [illegible]

[illegible] .(Yamanouchi *et al.*, 1969) [illegible]

[illegible] Edmonston [illegible] 1981) [illegible] .(Karstad, [illegible] .Welshman,) (1989 [illegible]

[illegible]


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1990.

Bhatt, P.N., C.D. Brandt, R.A. Weiss, J.P. Fox, M.F. Shaffer. Viral infections of monkeys in their natural habitat in southern India. II. Serological evidence of viral infection. *Am J Trop Med Hyg* 15:561–566, 1966.

Black, F.L. Measles. *In:* Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Chen, J.C., ed. *Control of Communicable Diseases in Man*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 2000.

Hime, J.M., I.F. Keymer, C.J. Baxter. Measles in recently imported colobus monkeys (*Colobus guereza*). *Vet Rec* 97:392–394, 1975.

Kalter, S.S., J. Ratner, G.V. Kalter, A.R. Rodriguez, C.S. Kim. A survey of primate sera for antibodies to viruses of human and simian origin. *Am J Epidemiol* 86:552–568, 1967.

Karstad, L. Miscellaneous viral infections. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*, 2nd ed. Ames: Iowa State University Press; 1981.

Katz, S.L. Measles. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. Vol 2: *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

Montrey, R.D., D.L. Huxsoll, P.K. Hildebrandt, B.W. Booth, S. Arimbalam. An epizootic of measles in captive silvered leaf-monkeys (*Presbytis cristatus*) in Malaysia. *Lab Anim Sci* 30:694–697, 1980.

Soave, O. Viral infections common to human and non-human primates. *J Am Vet Med Assoc* 179:1385–1388, 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Outbreak of measles—Venezuela and Colombia, 2001–2002. *MMWR Morb Mortal Wkly Rep* 51(34):757–760, 2002.

Welshman, M.D. Measles in the cynomolgus monkey (*Macaca fascicularis*). *Vet Rec* 124:184–186, 1989.

World Health Organization (WHO). Global measles mortality reduction and regional elimination, 2000–2001. Part I. *Wkly Epidemiol Rec* 77(7):49–56, 2002.

Yamanouchi, K., A. Fukuda, F. Kobune, M. Hikita, A. Shishido. Serologic survey with the sera of monkeys in regard to their natural infection with measles virus. *Jpn J Med Sci Biol* 22:117–121, 1969.

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## MURRY VALLEY ENCEPHALITIS [illegible]

**[illegible] ICD-10 A83.9**

**ICD-10 A83.8 Other mosquito-borne viral encephalitis**

[illegible]

[illegible]

[illegible][1]

[illegible]

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[1] [illegible]

[illegible] 134 (X [illegible]) [illegible] 1918 – 1917 [illegible] 1974، 1971 [illegible] 1951 [illegible] 1.000 – 500 [illegible]

[illegible] 11 [illegible] %89، %7 [illegible] %89 [illegible] %86 [illegible] 1974 [illegible] (Hawkes *et al.*, 1981). [illegible] 2.873 [illegible] (Hawkes *et al.*, 1993) 1981 [illegible] 1991 [illegible] 1972 [illegible] (Hawkes *et al.*, 1993) enzootic [illegible] kunjin [1] [illegible] 18 [illegible] 1991.

[1] [illegible] (liehne *et al.*, 1976) [illegible] (Doherty, 1981).

culex %78 annulirostris sentinel .(Smith *et al.,* 1991)

marsupials

10 (%40

.(Gard *et al.,* 1977)

1974 (*Ardea novaehollandiae*) Heron

.(Kay *et al.,* 1981)

15

[illegible] feral [illegible] 1974 [illegible] (Gard *et al.*, 1976) [illegible] (Kay *et al.*, 1981) [illegible]

[illegible]

[illegible]

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Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Berge, T.O., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75–8301).

Clarke, D.H., J. Casals. Arboviruses: Group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Doherty, R.L. Arboviral zoonoses in Australasia. *In*: Beran, G.W., section ed. Section B, Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1981.

Downs, W.G. Arboviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Gard, G.P., J.R. Giles, R.J. Dwyer-Grey, G.M. Woodroofe. Serological evidence of inter-epidemic infection of feral pigs in New South Wales with Murray Valley encephalitis virus. *Aust J Exp Biol Med Sci* 54:297–302, 1976.

Gard, G.P., I.D. Marshall, K.H. Walker, H.M. Acland, W.G. Sarem. Association of Australian arboviruses with nervous disease in horses. *Aust Vet J* 53:61–66, 1977.

Hawkes, R.A., C.R. Boughton, H.M. Naim, J. Wild, B. Chapman. Arbovirus infections of humans in New South Wales. Seroepidemiology of the flavivirus group of togaviruses. *Med J Aust* 143(12–13):555–561, 1985.

Hawkes, R.A., J. Pamplin, C.R. Boughton, H.M. Naim. Arbovirus infections of humans in high-risk areas of south-eastern Australia: a continuing study. *Med J Aust* 159:159–162, 1993.

Kay, B.H., P.L. Young, I.D. Fanning, R.A. Hall. Which vertebrates amplify Murray Valley encephalitis virus in Southern Australia? *In*: Fowler, M.E., ed. *Wildlife Diseases of the Pacific Basin and Other Countries. Proceedings of the Fourth International Conference of the Wildlife Diseases Association, Sydney 25–28 August, 1981*. Davis: University of California; 1981.

Liehne, C.G., N.F. Stanley, M.P. Alpers, S. Paul, P.F. Liehne, K.H. Chan. Ord River arboviruses: serological epidemiology. *Aust J Exp Biol Med Sci* 54:505–512, 1976.

Miles, J.A. Epidemiology of the arthropod-borne encephalitides. *Bull World Health Organ* 22:339–371, 1960.

Smith, D.W., A.K. Broom, A. Keil, J.S. Mackenzie. Murray Valley encephalitix acquired in Western Australia. *Med J Aust* 154:845–846, 1991.


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## NEWCASTLE CONJUNCTIVITIS[1] ǏǂƨƑǀǋǰǁƐ ƕǅǾǂǅǁƐ ƒƑǇǂǁƐ

## þǬǪŐƐ Ǐ ƨǋþǐƻǁƐ ƕǅǾǂǅǁƐ ƒƑǇǂǁƐ

**ICD-10 B30.8 Other viral conjunctivitis**

ā æǞÒöä øǫƸÛöä ɈƺʒǞù Ûpneumoencephalitis ȟǞȵǼöäş ǦǝǞöä ā ǞȚǬöä ˙ğ ǞǫǻäǞţä

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[1] ôǞţä ȣǞȞ ƙǵ Ž ÛȢǓèǾǒǫƸǞöä ǤȾHƺǪƳţä ā ǞȚǬöǞǽ *ǑèǾǒǫƸǜ öǟǻ āşƘǫ* ʤʒ ǈǅǞǞöä ɃǞȊǤöä ôǞţä ȣǞȞ ·

·ǑèǾǒǫƸǜ öǞǼǽ ɃƘÛöä

.paramyxovirus 1 ǦĔφÀüÀÅţä ǦèşĶÀöä Ûpseudofowl pest (øζĔÛöä Ž āæÀÒöä ȷζȝÀÛöä)

ǦöÂøÀöä ğĶŢφ âşĶÀæ ÌŘÀǚ ȣÀĤÀ ɃØöäş Û*Newcastle ŌèÀõζĔφ õäá âşĶζ* ⁚ğÀĔǦÊöä БǚɄŧǪÀÀ ƙŎä ɃşÀφø âşĶζ ζŁş Û(avian parainfluenza virus 1) 1 ǦÀĶÛöä ğÆζäζöä ǦŸĔÔÀöä ȻØŁ ȸŧŘǪǩ .ǦĔφÀüÀÅţä ğÀèşĶÀöä ǦŸĔÔζ Û*Avulavirus ǦŸÔÀÀţä ǦèşĶÀöä* ÈÀDZ ğÆζäζöä ǦöÂøÀöä ğĶŢφ ğÀèşĶζ ȝŋ Û(9 Бǚ 2 ȸŋ) ʔÀňǚ ǦÀĶü ǦĔφÀüÀƯ ğÀèşĶζ 8 .ÈÀDZŸö protype ɄəÆǦöä ÙŧÀöä ţζÀöä ζŁ *ŌèÀõζĔφ õäá âşĶζ* .mumps ȣÀÒÀöä âşĶζş ÀŢǪȝζÀæ ƵŸǪƠ ɄøǪöäş ÛǦĤĔǦÛöä Ž âşĶÀöÀæ ĶǦõ ŌÒÎæ ÌÀÆŘǪÊŋ ǦÛǦǩÀŋ ȓÀyǚ ǦĤǦè õÀÀŁ ǴŎŸŋ ǯÀDZá ƙÀDZ ğζţ ÿäŸöä Ǩęζöä ζŁş ‒ ĶÀÀĤţä Æğĵ ÌĤǦǩş .øζĔÛöä Ž ϙÆƠ ɄøǪöä ȓÀyĵä) pathogenic types ǦȓÀŧţä ȓÀyĵä Бǚ ğÀèşĶÀöä ȻØŁ ǨÀÀö ÆŐζ ‒ inculated ȷζÒǪöä òÆǪĤţä Û(ǦÀŁζŋ Ǧȝζζ) lentogenic ȷζÒǪöä õɄÛǦöä ⁚ǦĔöÀǪöä (pathotype ǦĔȓÀţä õÀÎğǪǒ ɄŧÀţäş Û(ǦĔöÀȝ Ǧȝζζ) velogenic ȷζÒǪöä ȝÀÀÊöä Û(ǦöÆǪĤŋ Ǧȝζζ) Mesogenic ɄøǦDZĵä şǚ ɃζĔèȼä ⁚ÌŘÀǚ ʔȝÆÀ ɃØöäş) viscerotropic velogenic ȷζÒǪöä ȝÀÀÊöä .(exotic

*õäá âşĶζ* Ƀøäøæ ȷǚ ÛɃζŋÆöä ÎäÀǪöä øÀǦǪňä ǰəÀǪφ ʔŸȝ ÌáÀŧǪȝäş ÛÌÒæÀè ÆŐǪȝä ȷǚ ÆöÀÔǪţä Ǧȝζŕöä òäÀǪňÀæ ŌÔţä òäÆĤǪèä øÀǦǪňÀæş ÛÌŐğȓ ƙǦǩ ȸÒõ ÛǦŸφÀŧǪŋ *ŌèÀõζĔφ* ğáζDZζţä ȻØŁ ȷǚ ȴȡø ÛǦÀŸǪÅţä ȷäÆŸǦöä Ž ǦèşøÆţä ɃøäøØöä ƙæ ɃÆŘǪÊŋ ȣŸǪňä õÀÀŁ ǦÀøæ 40 Ž ǦŸĔÊÀöä ğÆĔğş áäÆȓĵä Ǧèäøá ğáǚ .ƙÔĤǪöä áζŢƛ ǦęŸȝ ğäæ ȸÒǩ Ƀ ǦĔDZζöζĔæ ÒəÀÔȠ õøÀÎǪǩ ÀŒǚ äÆæ ɃØöäş ÛǦÀÆŘǪÊŋ ğÀȝζŧƒ 8 ȣäĤǪèȓ ǦĔèşĶζ .(Russell and Alexander, 1983) ǦÀÆĤŋ ǦĔζäζèş

.øÀÎǪφȓä ɄţÀȝ øζĔÛöä Ž ôÀţä ⁚ŽäÀȣƨä ţäζǪöä

ƙæ ɄÊĔəø ŌÒÎæ ϙÆğ Æęş ÛȷÀÊφqä Ž ÀǩäζǪŋ Ƙȡ ôÀţä ⁚ȷÀÊφqä Ž ϙşÆΣä ğÀğÀŐö ȷζÛĤÀ ȸÀØöä ƙĔĤÔöä ƙŸŋÀĤöäş ğäƎǪÅţä ȴęÀüş øζĔÛöä ƀÀÊŋ Ž ƙŸŋÀĤöä ğÀȓζöÀæ ÀǩζÊĔφÀŋ Ž øζĔÛŸö ŇŸÊŋ Ž ǦÀÀÀè ǦöÀğ 40 ȸŋ ǦĔìÀζ ȸȝ ŋŸæ .ǦĔΣä âşĶÀöä ƙæ (ŌĔəäÀèǚ) ƙÛÊŸζ Ž ǦĔȝäøä ǦèøÆŋ Ž ǦöÀğ 17 ǨǪÆğ .ŸŋÀȝ 90 ȼĔζ ŌŧĤÀ ğÆĤǪţä

%64

1926

panzootics 1970 1968 – 1966

1971 – 1970

epizootic 56 3 1971

1991 episode

(*Amazona ochrocephala oratrix*)

Bruning-Fann *et al.*,)

.(1992

[illegible] neurotropic [illegible] 1984 – 1981 [illegible] 1981 [illegible] 23 [illegible] 8 – 6 [illegible] Pearson *et al.*,) lentogenic [illegible] 90 [illegible] .(1985

[illegible] 1992 [illegible] 1990 [illegible] (*Pelecanus erythrorhynchos*) [illegible] [1](*Phalacrocorax auritus*) [illegible] %50 [illegible] %20 [illegible] 26.000 [illegible] Wobeser *et al.*, 1993; USDA,) [illegible] .(1992 [illegible] 3.736 [illegible]

[1] [illegible] cormorant [illegible]

[illegible] 17 [illegible] 67 [illegible] et al., 1986) [illegible] 1999 [illegible] Aust Vet J,) [illegible] .(2000

[illegible] 1932 [illegible] 1930 [illegible] 1964 [illegible] 1999 [illegible] 1932 [illegible] .(Murray, 1999) endemic [illegible]

[illegible] 1970 [illegible] 1927 [illegible] 100 [illegible]

[illegible] 2 – 1 [illegible] 4 [illegible]

4 – 3

15 – 2 … 6 – 5

• … velogenic … %90 … %10

• … mesogenic … %50 … %10

• …

(4 – 2) … preponderant … proventriculus …

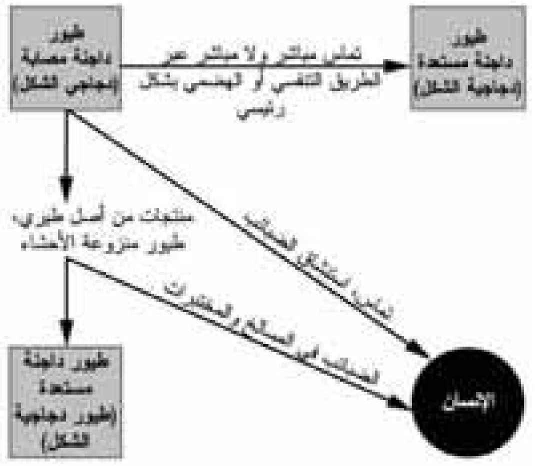
[illegible] 3 – 1 [illegible] wattle [illegible]

[illegible] (21 [illegible] episodes [illegible] 1926 [illegible]

[illegible] (Hanson, 1978) [illegible] 19 – 15 [illegible] B1 [illegible]

[illegible]

[illegible]


طيور داجنة مصابة (دجاجي الشكل)
تماس مباشر ولا مباشر عبر الطريق التنفسي أو الهضمي بشكل رئيسي
طيور داجنة مستعدة (دجاجية الشكل)
منتجات من أصل طيوري، طيور منزوعة الأحشاء
طيور داجنة مستعدة (طيور دجاجية الشكل)
الإنسان

[illegible]

[illegible] panzootic [illegible]

[illegible] .(Hanson, 1976) [illegible]

[illegible] 9.446 [illegible] :(Pearson and Cann, 1975) [illegible] exotic [illegible] (*Passer domesticus*) [illegible] 3 [illegible] (*Corvus brachyrhynchos*) [illegible] 4.367 [illegible] (%0.76) 33 [illegible] 3.780 [illegible] (%1.01) 38 [illegible] .toucan [illegible]

[illegible]

[illegible] , 1975) [illegible]

[illegible]

[illegible] (Hlinak *et al.*, 1992) [illegible]

10 – 9 average

.(Alexander, 1991) 6

lasota Hitchner B1 lentogenic

instilling

.(Hanson, 1978)

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Alexander, D.J., J.S. Mackenzie, P.H. Russell. Two types of Newcastle disease viruses isolated from feral birds in Western Australia detected by monoclonal antibodies. *Aust Vet J* 63:365–367, 1986.

Alexander, D.J. Newcastle disease and other paramyxovirus infections. *In*: Calnek, B.W., H.J. Barnes, C.W. Beard, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*, 9th ed. Ames: Iowa State University Press; 1991.

Allan, W.H. The problem of Newcastle disease. *Nature* 234:129–131, 1971.

Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Benson, H.N., D.R. Wenger, P.D. Beard. Efficacy of a commercial Newcastle vaccine against velogenic viscerotropic Newcastle disease virus. *Avian Dis* 19:566–572, 1975.

Brandly, C.A. The occupational hazard of Newcastle disease to man. *Lab Anim Care* 14:433–440, 1964.

Bruning-Fann, C., J. Kanene, J. Heamon. Investigation of an outbreak of velogenic viscerotropic Newcastle disease in pet birds in Michigan, Indiana, Illinois, and Texas. *J Am Vet Med Assoc* 201:1709–1714, 1992.

Francis, D.W., E. Rivelli. Newcastle disease in Paraguay. *Avian Dis* 16:336–342, 1972.

Hanson, R.P. Newcastle disease. *In*: Hofstad, N.S., ed. *Diseases of Poultry*, 6th ed. Ames: Iowa State University Press; 1972.

Hanson, R.P., J. Spalarin, G.S. Jacobson. The viscerotropic pathotype of Newcastle disease virus. *Avian Dis* 17:354–361, 1973.

Hanson, R.P. Paramyxovirus infections. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Hanson, R.P. Avian reservoirs of Newcastle disease. *In*: Page, L.A., ed. *Wildlife Diseases. Proceedings of the Third International Wildlife Disease Conference held at the University of Munich's Institute for Zoology and Hydrobiology in Munich, 1975 and sponsored by the Wildlife Disease Association*. New York: Plenum; 1976.

Hanson, R.P. Newcastle disease. *In*: Hofstad, N.S., B.W. Calnek, C.F. Helmboldt, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*, 7th ed. Ames: Iowa State University Press; 1978.

Hlinak, A., H. Dahms, P. Minning. Beitrag zur Wertung verschiedener Testmethoden zum Nachweis von Antikörpern gegen Newcastle virus. *Monatshefte Vet Med* 47:443–447, 1992.

Lancaster, J.E. Newcastle disease: Modes of spread. *Vet Bull* 33:221–226;279–285, 1963.

Murray, G. Controlling the major Newcastle disease outbreak at Mangrove Mountain, NSW. *Aust Vet J* 77(7):472, 1999.

No author. Four million chickens get Newcastle disease vaccine. *Aust Vet J* 78(2):73, 2000.

Pearson, G.L., M.K. McCann. The role of indigenous wild, semidomestic, and exotic birds in the epizootiology of velogenic viscerotropic Newcastle disease in Southern California, 1972–1973. *J Amer Vet Med Assoc* 167:610–614, 1975.

Pearson, J.E., D.A. Senne, L.A. Petersen. Newcastle disease virus infection of pigeons: Is it a threat to poultry? *Proc 89th Ann Meet US Animal Hlth Assoc* 89:293–295, 1985.

Russell, P.H., D.J. Alexander. Antigenic variation of Newcastle disease virus strains detected by monoclonal antibodies. *Arch Virol* 75:243–253, 1983.

Snyder, D.B., W.W. Marquardt, E.T. Mallinson, E. Russek. Rapid serological profiling by enzyme-linked immunosorbent assay. I. Measurement of antibody activity titer against Newcastle disease virus in a single serum dilution. *Avian Dis* 27:161–170, 1983.

Spalatin, J., R.P. Hanson. Epizootiology of Newcastle disease in waterfowl. *Avian Dis* 19:573–582, 1975.

United States of America, Department of Agriculture (USDA), Animal and Plant Health Inspection Service, Veterinary Services, Emergency Programs. *Foreign Animal Dis Rep* 20:3–4, 1992.

Walker, J.W., B.R. Heron, M.A. Mixson. Exotic Newcastle disease eradication programs in the United States. *Avian Dis* 17:486–503, 1973.
Westbury, H.A. Newcastle disease virus in Australia. *Aust Vet J* 57:292–298, 1981.
Wobeser, G., F.A. Leighton, R. Norman *et al.* Newcastle disease in wild water birds in Western Canada, 1990. *Canad Vet J* 34:353–359, 1993.

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# OMSK HEMORRHAGIC FEVER [illegible]

## ICD-10 A98.1

[illegible] B [illegible] *Flavivirus* [illegible]

[illegible] 600 [illegible] 1946 [illegible] 200 [illegible] 1945 [illegible] (%83.3) [illegible] 1992 – 1988 .(Belov *et al.*, 1995) 10 [illegible] 9 [illegible]

[illegible] 7 – 3 [illegible] (40 – 39) [illegible] 12 – 5 [illegible] meningism [illegible] exanthem [illegible]

[illegible] .%2 %1 [illegible]

[illegible] (Ondatra zibethicus) [illegible] [3] [illegible] .(Seymour and Yuill, 1981)

[illegible] Dermacentor pictus [illegible] 40 [illegible]

[illegible] (Ondatra zibethicus) [illegible] (Arvicola terrestris) [illegible] (Sorex araneus) shrew [illegible] (Microtus economus [illegible] (Citellus erythrogenus) [illegible] Seymour and) [illegible]

, 1981


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Belov, G.F., E.V. Tofaniuk, G.P. Kurzhukov, V.G. Kuznetsova. [The clinico-epidemiological characteristics of Omsk hemorrhagic fever in 1988–1992.] *Zh Mikrobiol Epidemiol Immunobiol* Jul-Aug;(4):88–91, 1995.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1990.

Casals, J., B.E. Henderson, H. Hoogstraal, K.M. Johnson, A. Shelokov. A review of Soviet viral hemorrhagic fevers, 1969. *J Infect Dis* 122:437–453, 1970.

Clarke, D.H., J. Casals. Arboviruses: Group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Downs, W.G. Arboviruses. *In*: Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

Prier, J.E. *Basic Medical Virology*. Baltimore: Williams & Wilkins; 1966.

Seymour, C., T.M. Yuill. Arboviruses. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*, 2nd ed. Ames: Iowa State University Press; 1981.

World Health Organization (WHO). *Viral Haemorrhagic Fevers: Report of a WHO Expert Committee*. Geneva: WHO; 1985. (Technical reports series 721).

# OROPOUCHE VIRUS DISEASE [illegible]

**ICD-10 A93.0**

[illegible]

[illegible] *Bunyavirus* [illegible] 18 [illegible] Simbu [illegible]

[illegible] 1955 [illegible] 46 [illegible] (Anderson *et al.,* 1961) [illegible] 3 [illegible]

[illegible] 1978 [illegible] 1961 [illegible] 14.000 [illegible] 11.000 [illegible] (1975) [illegible] (1961) [illegible] 165.000 [illegible] (Pinherio *et al.,* 1981) [illegible] 1978 [illegible] 1980 – 1979 [illegible] (LeDuc *et al.,* 1981)

[illegible] 1981/2 [illegible] 1980/10 [illegible] 1980/6 [illegible] 5 [illegible] %4.2 [illegible] 6 [illegible] 496 [illegible] 650.000 [illegible] 97.000 [illegible] %16.7 [illegible] 1987/12 [illegible] (Borborema *et al.,* 1982) [illegible] (Vasconcelos *et al.,* 1989) [illegible] %56 [illegible] 19 [illegible] 10

[illegible] LeDuc *et al.,*) [illegible] .(1981

[illegible] .(Pinheiro *et al.,* 1981) [illegible] .(Chin, 2000) [illegible] .(Berge, 1975) [illegible]

[illegible] .(Pinheiro *et al.,* 1981) [illegible] (*Bradypus tridactylus*) sloth [illegible] *Alouatta seniculus*) [illegible] 26 [illegible] 9 [illegible] .(Anderson *et al.,* 1961) (*Cebus* [illegible] 26 [illegible] 8 [illegible] (*insularis* [illegible] %11.9 [illegible] %1 [illegible] %2.8 [illegible] %4.1 [illegible] Pinheiro *et al.,*) [illegible] .(1981

[illegible] 8 – 4 [illegible] °40 [illegible] exanthematic [illegible] %5 [illegible] 2 – 1 [illegible] %60 [illegible] 5 – 2

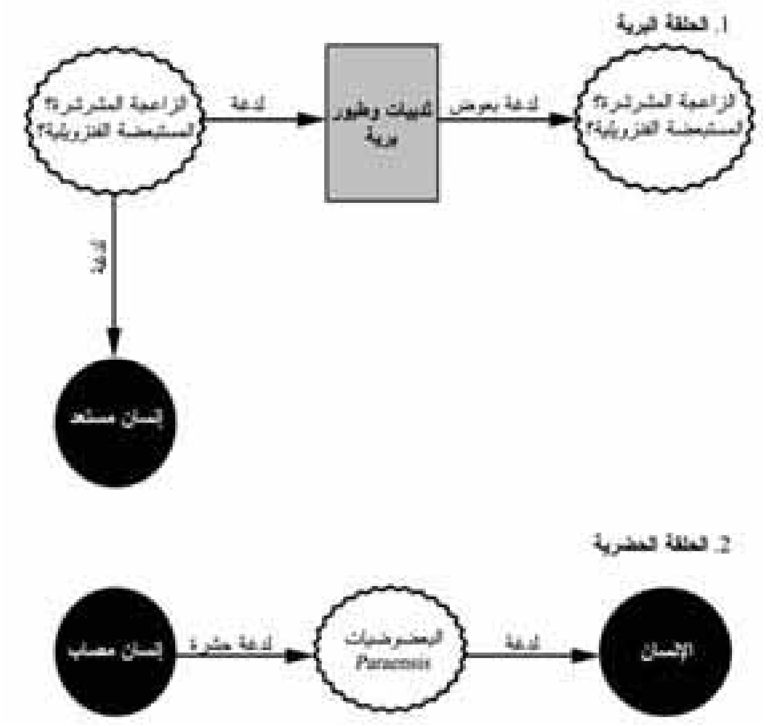
[illegible] .(Vasconcelos, 1989) 1987 [illegible] Pinheiro *et al.,*) [illegible] 1980 [illegible] .(1982

[illegible] .(Pinheiro *et al.,* 1981)

[illegible] :(22 [illegible]) [illegible] .(Pinheiro *et al.,* 1981) [illegible] (*Cebus* [illegible]) [illegible] .(formicariidae [illegible] (*Saguinus* [illegible]) [illegible] (*Saimiri* [illegible]) [illegible] *Coquilletidia venezuelensis* [illegible] *Aedes serratus* [illegible]) hematophagous [illegible] (*Culicoides* [illegible]) .*Culicoides paraensis* [illegible] .(Pinheiro *et al.,* 1982a) [illegible] *Culex quinquefasciatus* [illegible]

.(Hoch *et al.*, 1987) ǦǟʂɉǠǟ ǦǟǠȎʈǟ ǦǠȀȒΣǟ ĘȕǠǠʈǟ Ž ǞȒǠǚ ǥǠǠȃɖ ǥȀȊΣǟ ǾØŁ ȇ ʐǟʂǿʂǚ

· ȃ ʂƘǠŸǒ ȌʈǾǂǟ ɹǟǿʂǼǒǟ Ǘȇ ʐǟʂǿʂǚ ʔɓ :22 ȌȮȊǒǟ




Ž ȌʒǠǠʈǟ ǧɟǼȞɳ ǨǵʂǟǠǩ ·Ǵȑǟʂ ȌȮȊǟ ǦǠȀȒΣǟ ĘȕǠǠʈǟ Ž ȏȀʈǟ ʈʐʂ ʓǮǭ

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Ž ǦȈǅʐǒʐȮǠɋǟ ȣʂȀȚǒǟ Ž ȧʂȀǠǒǟ ȸʒ ɭǅǠǠ ʔʂǼȞǒǟ ȯǼȞɳ Ž ȣŸǬȠɟǟ ǟØŁ ɉǗ ǼȌǬȞǠ

.(Borboreva *et al.*, 1982) ȌȩǠǠǒǟ ȀȩȮǨ ĘǼȞǨ ʂǗ ǼʒǠȆǨ ǠȐǗ ǠɳǗ ɄǿǬǒǟ ǥǿʂǠǑǟ ĘȕǠǠʈǟ

*Paraensis* *ǧǼȑʐȒȞǕǟ* ȸɳ ȃ ʂƘǠǒǟ ǧǟȀǠǬȆɳ ȯǼȞɳ ɉǗ ʔŸʒ ɉʐǯǧǠǕǒǟ ȀȭǿȊǠ ʔŸʒ ·ǧǟȀȊΣǠǟ ǦȍʐȌǠɳ ʔȀȠǚ ʔʂǟǼʒ ʒɳ ǦȩǿǠȌɳ ǟǼǅ ȒǠǠǠɳ 12.500: 1 ǿǟ ǥǿǼȌʈʂ

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LeDuc *et al.,*) ǦǟʂɉǟȮŸȠ ǦǠȊǦǒǟ ʔʂǼǼŸǒ ƃǠǼǒǟ ȮǼǼʈǟ ȸʒ ǦǒʂȕȆɳ ɉʐȮǨ ǼȩɄǿǬǒǟʂ

.1981)

*paraenris* (Pinheiro *et al.*, 1981)

(Moreli *et al.*, 2002).


Anderson, C.R., L. Spence, W.G. Downs, T.H.G. Aitken. Oropouche virus: A new human disease agent from Trinidad, West Indies. *Am J Trop Med Hyg* 10:574–578, 1961.

Berge, T.O., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75–8301).

Borborema, C.A., F.P. Pinheiro, B.C. Albuquerque, A.P. Travassos da Rosa, J.F. Travassos da Rosa, H.V. Dourado. Primeiro registro de epidemias causadas pelo virus Oropouche no estado de Amazonas. *Rev Inst Med Trop Sao Paulo* 24:132–139, 1982.

Chin, J., ed. *Control of Communicable Diseases Manual*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 2000.

Hoch, A.L., F.P. Pinheiro, D.R. Roberts, M.L. Gomes. El virus Oropouche, transmisión en el laboratorio por *Culex quinquefasciatus*. *Bol Of Sanit Panam* 103:106–111, 1987.

LeDuc, J.W., A.L. Hoch, F.P. Pinheiro, A.P. Travassos da Rosa. Epidemic Oropouche virus disease in northern Brazil. *Bull Pan Am Health Organ* 15:97–103, 1981.

Moreli, M.L., V.H. Aquino, A.C. Cruz, L.T. Figueiredo. Diagnosis of Oropouche virus infection by RT-nested-PCR. *J Med Virol* 66(1):139–142, 2002.

Pinheiro, F.P., A.P. Travassos da Rosa, J.F. Travassos da Rosa, *et al.* Oropouche virus. I. A review of clinical, epidemiological and ecological findings. *Am J Trop Med Hyg* 30:149–160, 1981.

Pinheiro, F.P., A.G. Rocha, R.B. Freitas, *et al.* Meningite associada as infeccoes por virus Oropouche. *Rev Inst Med Trop Sao Paulo* 24:246–251, 1982.

Pinheiro, F.P., A.P. Travassos da Rosa, M.L. Gomes, J.W. LeDuc, A.L. Hoch. Transmission of Oropouche virus from man to hamster by the midge *Culicoides paraensis*. *Science* 215:1251–1253, 1982a.

Vasconcelos, P.F., J.F. Travassos da Rosa, S.C. Guerreiro, N. Degallier, E.S Travassos da Rosa, A.P. Travassos da Rosa. Primeiro registro de epidemias causadas pelo virus Oropouche nos estados do Maranhao e Goias, Brasil. *Rev Inst Med Trop Sao Paulo* 31:271–278, 1989.

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## ORUNGO FEVER [illegible]

**[illegible] ICD-10 B33.3**
**ICD-10 B33.3 Retrovirus infections, not elsewhere classified**

[illegible] .Reoviridae [illegible] *Orbivirus* [illegible] 80 – 60 [illegible]

[illegible] .(Tomori, 1978) [illegible]

[illegible] 60 [illegible] .(Fabiyi *et al.*, 1975) [illegible] 1972 [illegible] 1.197 [illegible] %23 [illegible] .(Tomori and Fabiyi, 1976) [illegible] %24 [illegible] 99 [illegible] %14 [illegible] 44 [illegible] %52 [illegible] .*Cercopithecus* [illegible]

[illegible] 7 – 3 [illegible]

[illegible] .(Fabiyi *et* al., 1975)

[illegible] Tomori and) [illegible] .(Fabiyi, 1977

[illegible] 1962 [illegible] *Anopheles funestus* [illegible] *A. gambiae* [illegible] *Aedes dentatus* [illegible] .(Tomori, 1978) [illegible] .(Tomori and Fabiyi, 1976) [illegible]

[illegible]

[illegible]

[illegible]

Fabiyi, A., O. Tomori, M.S. el-Bayoum. Epidemics of a febrile illness associated with UgMP 359 virus in Nigeria. *West Afr Med J Niger Med Dent Pract* 23:9–11, 1975.

Tomori, O. Orungo (ORU). Strain UgMP 359. *In:* Karabatsos, N. Supplement to *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates. Am J Trop Med Hyg* 27(2 Pt 2 Suppl):372–440, 1978.

Tomori, O., A. Fabiyi. Neutralizing antibodies to Orungo virus in man and animals in Nigeria. *Trop Geogr Med* 28:233–238, 1976.

Tomori, O., A. Fabiyi. Susceptibility of laboratory and domestic animals to experimental infection with Orungo virus. *Acta Virol* 21:133–138, 1977.

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## POWASSAN ENCEPHALITIS [illegible]

**[illegible] ICD-10 A 84.8**
**ICD-10 A84.8 Other tick-borne viral encephalitis**

[illegible] *Flavivirus* [illegible] [1] [illegible]

[illegible] (Lvov, 1978) [illegible]

[illegible]

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1 [illegible]

[illegible] 1958 [illegible] 27 [illegible] 1998 [illegible] (Gholom *et al.*, 1999) [illegible] 2001 [illegible] 1999 [illegible] CDC,) [illegible] %5 [illegible] (2001 [illegible] %1 [illegible] 14 [illegible] (Monath, 1979) [illegible] (Leonova *et al.*, 1991) [illegible]

[illegible] 725 [illegible] 22 [illegible] %50 [illegible] *Mephitis* [illegible] skunk [illegible] %47 (*Canis latrans*) Arstob *et al.*,) (*Proyon lotor*) [illegible] %10 [illegible] %26 (*mephitis* [illegible] (1986 [illegible] (*Spilogale putorius*) [illegible] (Johnson, 1987) [illegible]

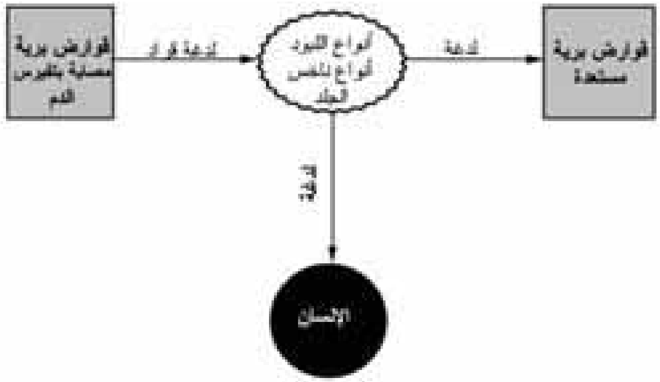
[illegible] 13 [illegible] (Keane *et al.*, 1987) [illegible] 170 [illegible] (Artsob *et al.*, 1984) [illegible] %1.1 [illegible] *Rodentia* [illegible]

[illegible]

[illegible] 14 [illegible] pleocytosis [illegible] (1991) [illegible]

[illegible] (*Marmota monax*) woodchuck [illegible] 11 – 6 [illegible] (*Didelphis marsupialis* [illegible] 3 – 1 [illegible] (Kokernot *et al.*, 1969) [illegible] *Urocyon*) [illegible] (*cinereoargeteus*.

[illegible] (23 [illegible] cookei [illegible] *Dermacentor* [illegible] Ioaxdes [illegible] spinipalpis [illegible] marxi [illegible] Haemap- [illegible] hysalis longicornis [illegible]



(Ralph, 1999).

Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Artsob, H., L. Spence, L. Surgeoner *et al.* Isolation of *Francisella tularensis* and Powassan virus from ticks (Acari: Ixodidae) in Ontario, Canada. *J Med Entomol* 21:165–168, 1984.

Artsob, H., L. Spence, C. Th'ng, *et al.* Arbovirus infections in several Ontario mammals, 1975–1980. *Can J Vet Res* 50:42–46, 1986.

Gholam, B.I.A., S. Puksa, J.P. Provias. Powassan encephalitis: A case report with neuropathology and literature review. *CMAJ* 171(11):1419–1422, 1999.

Johnson, H.N. Isolation of Powassan virus from a spotted skunk in California. *J Wildl Dis* 23:152–153, 1987.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society of Tropical Medicine and

Hygiene; 1985.

Keane, D.P., J. Parent, P.B. Little. California serogroup and Powassan virus infection of cats. *Can J Microbiol* 33:693–697, 1987.

Kokernot, R.H., B. Radivojevic, R.J. Anderson. Susceptibility of wild and domestic mammals to four arboviruses. *Am J Vet Res* 30:2197–2203, 1969.

Leonova, G.N., M.N. Sorokina, S.P. Krugliak. Kliniko-epidemiologicheskie osobennosti entsefalita Povassan na iuge Sovetskogo Dal'nego Vostoka [The clinico-epidemiological characteristics of Powassan encephalitis in the southern Soviet Far East]. *Zh Mikrobiol Epidemiol Immunobiol* 3:35–39, 1991.

Lvov, D.K. Epizootiology and ecology of viral zoonoses transmitted by ticks. *In*: WHO Collaborating Centre for Collection and Evaluation of Data on Comparative Virology. *Proceedings, Third Munich Symposium on Microbiology*. Munich: WHO Collaborating Centre for Collection and Evaluation of Data on Comparative Virology; 1978.

Monath, T.P. Arthropod-borne encephalitis in the Americas. *Bull World Health Organ* 57:513–533, 1979.

Odend'hal, S. *The Geographical Distribution of Animal Viral Diseases*. New York: Academic Press; 1983.

Ralph, E.D. Editorial: Powassan encephalitis. *CMAJ* 161(11):1416, 1999.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Powassan virus—New York. *MMWR Morb Mortal Wkly Rep* 24:379, 1975.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Outbreak of Powassan encephalitis—Maine and Vermont, 1999–2001. *MMWR Morb Mortal Wkly Rep* 50(35):761–764, 2001.

Whitney, E. Serologic evidence of group A and B Arthropod-borne virus activity in New York State. *Am J Trop Med Hyg* 12:417–424, 1963.

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## POXES OF MONKEYS [illegible]

**[illegible] B08.8 [illegible] ICD-10 B04**

**[illegible]**

**ICD-10 B04 Monkeypox; B08.8 Other specified viral infections characterized by skin and mucous membrane lesions**

*[illegible] 1980 [illegible]*

*[illegible]*

*[illegible] 1967 [illegible] 1958 [illegible]*

*[illegible] 1978 [illegible]*

*.(1978 [illegible]*

*[illegible]*

[illegible] 1958 [illegible] 4 [illegible]

**1. MONKEYPOX** [illegible]

[illegible] (variola [illegible]) smallpox [illegible] *Orthopoxvirus* [illegible] cowpox [illegible] vaccinia

[illegible] (Hutchinson *et al.*, 1977) [illegible] (Marennikova *et al.*, 1981) [illegible] (Tripathy *et al.*, 1981) [illegible]

[illegible]

[illegible] 1970 [illegible] 1987 [illegible] %95 [illegible] 7 [illegible] 404 [illegible] %93) [illegible] (Benenson, 1990) [illegible] 15 [illegible] 10 [illegible] 4 [illegible] %15 [illegible] %1 [illegible] 130 [illegible] 214 [illegible] 2.510 [illegible] 14 [illegible] 62 [illegible] 22 [illegible]

[illegible] *et al.,* 1986) [illegible]

[illegible] 1958 [illegible] 10 [illegible] 2.242 [illegible] (Arita *et al.,* 1972) [illegible] 3 [illegible] 7 [illegible] 5 [illegible] (Foster *et al.,* 1972) [illegible] 372 [illegible] 10 [illegible] 115 [illegible] 7 [illegible] 6 [illegible] 195 [illegible] (Breman *et al.,* 1977b) [illegible] %8 [illegible] (Breman *et al.,* 1977a) [illegible] %21 [illegible] pangolin [illegible] porcupine [illegible] (Arita *et al.,* 1985; Baxby, 1988) [illegible]

[illegible] 1985 [illegible] (*Funisciurus anerythrus*).

[illegible] 320 [illegible] 24 [illegible] 27 [illegible] 6 [illegible] Khodakevich *et al.,*) [illegible] (*Heliosciurus rufobrachium*) [illegible] .(1987

[illegible] 3 – 2 [illegible] prodromal [illegible] 15 – 7 [illegible] 10 [illegible] 3 [illegible] .(Baxby, 1988) [illegible]

[illegible] 4 – 1 [illegible] .acanthosis [illegible]

[illegible]

[illegible] .(*H. rufobrachium F. anerythrus*) [illegible] 6 [illegible] 253 [illegible] (%6.3) 16 [illegible] .(Khodakevich *et al.*, 1987) [illegible] .(%95) [illegible] .Weber and) (Rutala, 2001 [illegible]

[illegible]

[illegible] .(Weber *et al.*, 2001) [illegible]

[illegible]

[illegible]

**[illegible] TANAPOX [illegible] .2**

[illegible] .Poxviridae [illegible] Yatapoxvirus [illegible] yaba [illegible] yaba [illegible]

[illegible] 1962 [illegible] 1957 [illegible] 163 [illegible] Arita and Gromyko,) 1981 [illegible] 1978 [illegible] 1966 [illegible] 23 [illegible] .(1982 [illegible] %9.2 [illegible] 1976 [illegible] (Axford and Downie, 1979) [illegible] Jezek *et al.*,) [illegible] 23.4 [illegible] .(1985

[illegible] %30 [illegible] %76 [illegible] 263 [illegible] %15 [illegible] 55 Hall and) [illegible]

[illegible] 1967

[illegible] 258 [illegible] %59 [illegible] 4 – 3 [illegible] pruriginous [illegible] Hyperplasia [illegible] (Jezek *et al.*, 1985) [illegible] 6 [illegible]

[illegible] (*Fuscata* [illegible]) [illegible] 8 – 6 [illegible]

[illegible]

[illegible] 3 [illegible] (1985) [illegible] (%57) [illegible] *Mansonia* [illegible] .(Jezek *et al.*, 1985) [illegible] .(Hall and McNulty, 1967) [illegible]

[illegible]

[illegible] .3

**POXES CAUSED BY OTHER YATAPOXVIRUSES**

[illegible] *Yatapoxvirus* [illegible] 1966 [illegible] 1965 [illegible]

epidermal histiocytoma

.(Esposito and Nakano, 1991)


Andrewes, C.H., J.R. Walton. Viral and bacterial zoonoses. *In*: Brander, G.C., P.R. Ellis. *The Control of Disease*. London: Baillière Tindall; 1977. (Animal and Human Health Series).

Arita, I., D.A. Henderson. Smallpox and monkeypox in non-human primates. *Bull World Health Organ* 39:277–283, 1968.

Arita, I., R. Gispen, S.S. Kalter, *et al.* Outbreaks of monkeypox and serological surveys in non-human primates. *Bull World Health Organ* 46:625–631, 1972.

Arita, I., A. Gromyko. Surveillance of orthopoxvirus infections, and associated research, in the period after smallpox eradication. *Bull World Health Organ* 60:367–375, 1982.

Arita, I., Z. Jezek, L. Khodakevich, K. Ruti. Human monkeypox: A newly emerged zoonosis in the tropical rain forests of Africa. *Am J Trop Med Hyg* 34:781–789, 1985.

Axford, J.S., A.W. Downie. Tanapox. A serological survey of the lower Tana River Valley. *J Hyg (Lond)* 83:273–276, 1979.

Baxby, D. Human poxvirus infection after the eradication of smallpox. *Epidemiol Infect* 100:321–334, 1988.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1990.

Breman, J.G., J. Bernadou, J.H. Nakano. Poxvirus in West African nonhuman primates: Serological survey results. *Bull World Health Organ* 55:605–612, 1977a.

Breman, J.G., J.H. Nakano, E. Coffi, H. Godfrey, G. Gautun. Human poxvirus disease after smallpox eradication. *Am J Trop Med Hyg* 26:273–281, 1977b.

Bruestle, M.E., J.G. Golden, A. Hall, III, A.R. Banknieder. Naturally occurring Yaba tumor in a baboon (*Papio papio*). *Lab Anim Sci* 31:286–294, 1981.

Downie, A.W., C.H. Taylor-Robinson, A.E. Caunt, *et al.* Tanapox: A new disease caused by a pox virus. *Br Med J* 1:363–368, 1971.

Downie, A.W., C. España. Comparison of Tanapox virus and Yaba-like viruses causing epidemic disease in monkeys. *J Hyg (Lond)* 70:23–32, 1972.

Esposito, J.J., J.H. Nakano. Poxvirus infections in humans. *In*: Balows, A., W.J. Hausler, Jr., K.L. Hermann, H.D. Isenberg, H.J. Shadomy, eds. *Manual of Clinical Microbiology*, 5th ed. Washington, D.C.: American Society for Microbiology; 1991.

Foster, S.O., E.W. Brink, D.L. Hutchins, *et al.* Human monkeypox. *Bull World Health Organ* 46:569–576, 1972.

Hall, A.S., W.P. McNulty, Jr. A contagious pox disease in monkeys. *J Am Vet Med Assoc* 151:833–838, 1967.

Hutchinson, H.D., D.W. Ziegler, D.E. Wells, J.H. Nakano. Differentiation of variola, monkeypox, and vaccinia antisera by radioimmunoassay. *Bull World Health Organ* 55:613–623, 1977.

Jezek, Z., I. Arita, M. Szczeniowski, K.M. Paluku, K. Ruti, J.H. Nakano. Human tanapox in Zaire: Clinical and epidemiological observations on cases confirmed by laboratory studies. *Bull World Health Organ* 63:1027–1035, 1985.

Jezek, Z., S.S. Marennikova, M. Matumbo, J.H. Nakano, K.M. Paluku, M. Szczeniowski. Human monkeypox: A study of 2,510 contacts of 214 patients. *J Infect Dis* 154:551–555, 1986.

Khodakevich, L., M. Szczeniowski, Z. Manbu-ma-Disu, *et al.* Role of squirrels in sustaining monkeypox virus transmission. *Trop Geogr Med* 39:115–122, 1987.

Knight, J.C., F.J. November, D.R. Brown, C.S. Goldsmith, J.J. Esposito. Studies on Tanapox virus. *Virology* 172:116–124, 1989.

Marennikova, S.S., E.M. Seluhina, N.N. Mal'ceva, K.L. Cimiskjan, G.R. Macevic. Isolation and properties of the causal agent of a new variola-like disease. *Bull World Health Organ* 46:599–611, 1972.

Marennikova, S.S., N.N. Mal'ceva, N.A. Habahpaseva. ELISA—a simple test for detecting and differentiating antibodies to closely related orthopoxviruses. *Bull World Health Organ* 59:365–369, 1981.

Munz, E. Afrikanische virusbedingte Zoonosen [African zoonoses caused by viruses]. *Munch Med Wochenschr* 115:1–9, 1973.

Tripathy, D.N., L.E. Hanson, R.A. Crandell. Poxviruses of veterinary importance: Diagnosis of infections. *In*: Kurstak, E., C. Kurstak, eds. Vol 4: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Tsuchiya, Y., J. Tagaya. Sero-epidemiological survey on Yaba and 1211 virus infections among several species of monkeys. *J Hyg (Lond)* 69:445–451, 1971.

Weber, D.J, W.A. Rutala. Risks and prevention of nosocomial transmission of rare zoonotic diseases. *Clin Infect Dis* 32:446–456, 2001.

World Health Organization (WHO). Le point sur l'orthopoxvirose simienne de l'homme: Mémorandum d'une Réunion de l'OMS. *Bull World Health Organ* 63:255–263, 1985.


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## PSEUDOCOWPOX ƒƤƑǀǁǁƐ ăƥʦǤǁƐ ăƥɋɯǁƐ

**ƕǐƥɋɯǁƐ ƕɾǋƥǐƻǁƑǴ ǌƥɑɭ ǌǋƐɋƳ ICD-10 B08.0**
**ICD-10 B08.0 Other orthopoxvirus infections**

.(Pseudovaccina paravaccina) ā æǺȮöä ȄęƺöäÛƙäƳΣä ğäǼƗÖɜ ˙ğǺƺââǞţä

ȄǺƊƵ ƂÜ ɄŧǬǺǺ ÛƙǑä ɃşǺǬá âşƘƺ Ûā æǺȮöä ɃȀǑĢöä ɃøǼɾä âşƘƺ ˙ğǺƐĢĜÊöä äØȽ őǺȒɜÜ .poxviridae ǦǺøǼɾä ğǺèşƘǺöä ǦƳƗÔƺ Û*Parapoxvirus* *ǦǬƒäøǼɾä ǦèşƘǺöä* Őƞǟƺɜ ǺȒǺÜ ȄǺɾä ȸŧȒǬǺ .ǞǬƞƺǬǺǬ 160 × 260 ȸƞ āǞÖǺǺƞ ȄƗÖƙş ÛǦǺƺȒƗä ȄǺɾä ȴǺöä āǺɫǬöä âşƘƺ) ɃȀǑĢöä ɄùǺÛΣä ȴǺöä āǺɫǬöäş (Orf ȣøşÜ âşƘƺ) ǦǺǼȞţä ǦŧƗǬōɋä sealpox ǦŧŐǺöä ɃøǼƊƵ ƂÜ ǦƺǺȓÜ Û(őǺɾä äØȽ Ž ǦòǺɭä óƺÔǺöä ǞȚǬä) (ɃȀǑĢöä ɄùǺÛΣä

[illegible] addendum [illegible] *orthopoxvirus* [illegible] (Nagington *et al*., 1967) [illegible] (Rosenhusch and Reed, 1983).

[illegible] (Tripathy *et al.*, 1981; Hernández-Pérez and Serpas de López, 1981). [illegible] (%13) [illegible] 358 [illegible] 46 [illegible] 46 [illegible] (Hernández-Pérez and Serpas de López, 1981; Tripathy *et al.*,) [illegible] (Kuokkanen *et al.*, 1976). [illegible] 44 [illegible] (1981

[illegible] 7 – 5 [illegible] 2 – 0.5 [illegible] 6 – 4 [illegible] 44 [illegible] 10 [illegible] (Schwartz *et al.*, 1967). [illegible] (Kuokkanen *et al.*, 1976).

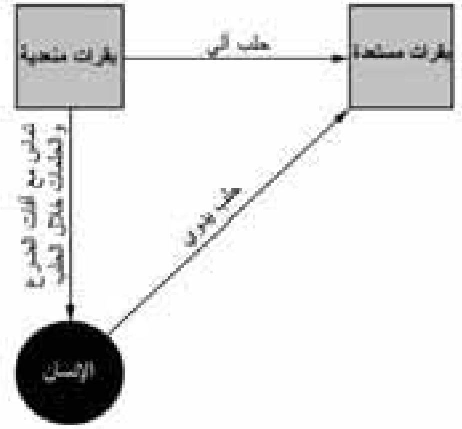
(Fenner *et al.*, 1993)

(Nagington *et al.*, 1967)

(Tripathy *et al.*, 1981)

Livestock

(Schuler *et al.*, 1982)




Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Andrewes, C.H., J.R. Walton. Viral and bacterial zoonoses. *In*: Brander, G.C., P.R. Ellis, eds. *The Control of Disease*. London: Baillière Tindall; 1977. (Animal and Human Health Series.)

Cheville, N.F., D.L. Shey. Pseudopox in dairy cattle. *J Am Vet Med Assoc* 150:855–861, 1967.

Dekking, F. Milker's nodules. *In*: van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Fenner, F.J., E. Poul, J. Gibbs, *et al. Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.

Hernández-Pérez, E., M.E. Serpas de López. Nódulo de los ordeñadores. *Dermatología* (Mexico) 25:142–149, 1981.

Kuokkanen, K., J. Launis, A. Morttinen. Erythema nodosum and erythema multiforme associated with milker's nodules. *Acta Derm Venereol* 56:69–72, 1976.

Nagington, J., I.M. Lander, J.S. Smith. Bovine papular stomatitis, pseudocowpox and milker's nodules. *Vet Rec* 81:306–313, 1967.

Rosenbusch, R.F., D.E. Reed. Reaction of convalescent bovine antisera with strain-specific antigens of parapoxvirus. *Am J Vet Res* 44:875–878, 1983.

Schuler, G., H. Honigsmann, K. Wolff. The syndrome of milker's nodules in burn injury: Evidence for indirect viral transmission. *J Am Acad Dermatol* 6:334–339, 1982.

Schwartz, K., F. Ott, H. Eichenberger, H. Storck. Melkerknoten mit Erythema exsudativum multiforme [Milkers' nodules with erythema exudativum multiforme]. *Dermatologica* 134:327–328, 1967.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J. E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals: With Reference to Etiology, Epizootiology, Pathogenesis, Immunity, Diagnosis, and Antimicrobial Susceptibility*, 8th ed. Ithaca: Comstock; 1988.

Tripathy, D.N., L.E. Hanson, R.A. Crandell. Poxviruses of veterinary importance: Diagnosis of infections. *In*: Kurstak, E., C. Kurstak, eds. Vol 3: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

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## Addendum [illegible]

### SEALPOX [illegible]

[illegible] Parapoxvirus [illegible] (*Halichoerus grypus*) [illegible] 19 [illegible] 5 [illegible] 29 [illegible] Transudate [illegible] .(Hicks *et al.*, 1987) [illegible]

[illegible]

Hicks, B.D., G.A. Worthy. Sealpox in captive gray seals (*Helichoerus grypus*) and their handlers. *J Wildl Dis* 23:1–6, 1987.

# RABIES [illegible]

**ICD-10 A82**

.lyssa ([illegible]) [illegible] Hydrophobia [illegible]

[illegible] Rhabdoviridae [illegible] *lyssavirus* [illegible] 75 [illegible] 180 [illegible] (N) [illegible] (G) [illegible] (1 [illegible]) [illegible] (Wunner, 1989)

[illegible] "fixed [illegible]" "street [illegible]" [illegible] 6 – 4 [illegible]

[illegible] .(WHO, 1984) [illegible]

[illegible] kinetic [illegible] .(Díaz Verela-Díaz,1980) [illegible] .(Wiktor *et al.*, 1980) reactivity [illegible] 8 [illegible] 14 [illegible] .(Whetstone *et al.*, 1984) [illegible] 204 [illegible] 20 [illegible] .(Sureau *et al.*, 1983) [illegible]

[illegible] impression [illegible]

.(Barrat *et al.*, 1989)

ecosytem

.(Rupprecht *et al.*, 1991) reindeer

epitope (1989)

(*Vulpes vulpes*) 37

(*Alopex lagopus*)

skunks

enzootics

.(Smith, 1989)

17 288

(Díaz, et al.,1994)

8 (N)

3 1 3 1 3 1 4 5 2 8 7 – 6 (Tadarida brasiliensis)

*T. brasiliensis* 8 8 7 *Tadarida*

(*Desmodus rotundus*) (Smith, 1989)

(*V. vulpes*)

*Nyctereutes*) (Chomel, 1993) (*procyonoides* (Smith, 1989)

(*Tragelaphus strepsiceros*) kudu (Smith, 1989)

[illegible] %80 [illegible] %50 [illegible] (G) [illegible] G [illegible]

[illegible] *Lyssavirus* [illegible]

– [illegible] 1 [illegible] . (CVS) "challenge virus standard" [illegible]

– [illegible] 2 [illegible] Lagos [illegible]

– [illegible] 3 [illegible] Mokola [illegible] shrew [illegible] (Foggin, 1983) [illegible] (*Crocidura* [illegible]) [illegible]

– [illegible] 4 [illegible] Duvenhage [illegible]

[illegible] (*Eptesicus serotinus*) [illegible] (EBL-1) "European bat lyssavirus [illegible]" [illegible] 550 [illegible] 104 [illegible] (EBL-2) *Myotis* [illegible] 4 [illegible]

[illegible] .(Bourhy *et al.*, 1992) 5 [illegible] Kotonkan [illegible] Obodhiang [illegible] Culicoides [illegible] (*Mansonia uniformis* [illegible] epitopes [illegible]

[illegible] (Foggin, 1983) [illegible]

[illegible]

[illegible] tropism [illegible] (OBOD) [illegible] *Cuolicoides* [illegible]

[illegible]

ǆŋ ǼÀǼĤöäş ÀÒǼŋÀDZş âşåÀæøÀæ Ȭöæ Ž Àŋ ÛǼǼöÀǵ ȜşǼĤöä ǆŋ ǼöÀǹ ȷäǼŸǴöä ǆŋ åǼȝ ƎǪĤÀ ÀÀøÀ8Ÿæş ÛÀǼèǓ Ž ȷÀæÀǼöäş ÛƘǪǼÒÀÀŋǰä Ž ȾäǫɖøşǰäБǓ ǴǫÀȓǓ ÛȜÀǹǰä ȹøǴÀøÀÒöä øÂDZ ·ÀæşøşǗ Ž ǴǼǫÀǼǼÀÒèȓä ȷäǼŸǴöä ȐĤæş ÛǥǼĦǪţä ǴÒŸȶţäş ÀǼǴÀǴèǗş ȯÀ8ǩƎöäş äǼÀöǫȽş äǼÀöÀÀǗş ǆŋ ǴǼöÀǹ ȨüÀÀŋ ÀȚǼǫ ǼDZǫÀ Ǽę ȹøǪöäş ÛǴÀǼĤÀţä ȷäǼŸǴöä Ž ȪǫÀȶǪŋ ȬÒÎæ ǼǼǬÒöä ţäǫǪÀ ɍ ·ǴǼǫäǫè ǧÀǼǐÀǫ şǗ ǴȐÀǺÀŋ şǗ ǴǼöÀȝ ǴÀǼüǫǩ ǧäæ ȨüÀÀŋş Û ô Àţä

ȷǼţä Ž ǴŸDZÊŋ ǴÀÀÎǴöä ǧɍÀΣä ȴȚĤŋ ·ǴÀÀȒǵ ǴÒŸǵş ǴÀÀæ ǴÒŸǵ ǼǼǬÒŸö ·ǫşǼΣä ȹøǪöä ȷäǼŸǴöä Ž ǴÀÀÎǴöä ǧɍÀΣä åǼȝ ȝDZäÀǩ ·(ǵøǫĤÊŋ) ǴǴõ āŸõ ǧÀȒȝ ǆŋ ǴȜÀǫş БǓ – ǴÀÀæ ǴÒŸǵ åǫDZş øäÀȶǪèä ȴɖø – ¢öÀÔÀǪèä şǗ ȹøǴŸÒöä ǼǼǬÒöä ǴĦǫÀÒţ ȜĤÊǩ ǴÀÀÎæ ǴöÀǵ [47] ÀȚǼǫ ȷÀõ ǬǼǵ ÛǥǼĦǪţä ǧÀÀɍǫöä ȯÀǵ ǫȽ äØȽş ÛǼǼDZ ǴȐÀǺÀŋ ǧÀÀǫǪÊŋ ·ǴÀÊöä Ž ǧɍÀǵ [3]ş [0] ƘæÀŋ БǓ ǼöÀǵ åǼĤöä ȝDZäÀǩş Û[1938] ǯÀȝ ǴöÀǵ [1.326] ¢öÀȚǓ Àŋ ōÀÀȽ ȷÀõ [1991] ǯÀȝ ȹÀǫ Û¢æÀÎŋ ȝȓş Ž ǴǼæşøşǰä ȷäǼŸǴöä ȴȚĤŋ ǴǼţÀĤöä ǴĦÔöä ǴȶȚÀŋ ȬǴę ǆŋ ÀȚÀȝ ŋŸǴŋ ǴöÀǵ [1.135] ȝŋ ǴǫøÀÒŋ ÛȾÀĤöä Ž ȾÀÎǴöä ǼǼǬÒöä ǆŋ Àŋ ōÀÀȚǫ ƘǪǼÒÀÀŋǰä Ž ÀŋǗ ÛÀǼèǓ Ž åǫDZǫŋ ǴÀÀÎǴöä ǧɍÀΣä ǆŋ Ǝõǰä åǼĤöä ·[1984] ǯÀȝ ØÀŋ ǼǴÀÀōǩ Ƙ8ǪÀ Ɓ ȴęø ǫȽş Û[1989 – 1980] ȯŸǹ ǴÀè Ȫõ ǴÀÀÎæ ǴöÀǵ [283] ¢Ûèǫǫŋ ǧɍÀΣä ǆŋ ȹÛèǫöä ȾǫÀÊöä åǼĤöä [5] ȯşǼɤä ÀȚȚÀ ·(ǴÀè Ȫõ ǴöÀǵ [280]) [1979 – 1970] ǆŋ ǼÀǼĤöä Ž ǴÀÀÎæ ǧɍÀǵ ǼDZǫǩ ɍ ·ƘǪǼÒÀÀŋǰä ǴŌÛÀŋ Ž [2000 – 1980] Ƙæ ǴÀÀÎǴöä Ž ǴǼǼǩŸöä Ƙɖ ȷäǼŸǴöäş ÛȾäǫɖşøşǰäş ÀȶÀæş ÀÒÀøÀǪèǫōş ȹŸÎǩş äǼÀõ ÀȚǼǫ Àŋ Ûȷ äǼŸǴöä åǼĤöä ǧäæ ǴǼÒÀÀŋǰä ǴŌÛÀţä [1999 – 1990] ǵÀǪÀöä Ž ÂÀǼǫǰä ǴŌÛÀŋ ǨǫÀõ ·ȹøǴÀøÀÒöä PAHO data,) (30) ȬǼÊÒţäş (41) ȬÀäǼƎöä ÀȚǼŸǩ Û(66) ǴÀÀÎǴöä ǧɍÀΣä ǆŋ Ǝõǰä Ƙæ ȜŸȝǰä ȾÀÎǴöä ǼǼǬÒöä ţǫęş ȷÀõ ·ǵƘǴÒöä ȷǼţä ǯøÀǹ ǧɍÀΣä ȴȚĤŋ ǨǪǼǵ ·(2000 ȹÊǼǝÀöä øǼÔţä ȷÀõ ·(%35.4) ǧäǫÀè [10] Àȶȝ ǨƠ ȯÀÀüǰä Žş (%58.7) øǫōØöä .(PAHO data, 2000) (%5.4) ÙÛŌöäş Ì ǼǫÀÀȴä Ż (%76.2) āŸÒöä ǫȽ ȜşǼĤŸö

ȌęÀǫ ǧɍÀΣä ǆȝ ŋǼŸǴǪöäş ÛǴǼŋÀÀöä ȷäǼŸǴöä ǆŋ ƘǯÒöä Ž 8Àõ Ƙɖ ǼǼǬÒŸö ȹǝÀæǫöä ǼȯÀǪöä ·ǼǼǬÒöä ǆȝ ȹȝǫǴèǰä ŋǼŸǴǪŸö ǯÀȚǫ ÀȚŸŋÀÒæ ǴǼǼǩŸöä ÀÒÀÀŋǗ Ž ǼDZǫÀ ·Ȫõ ȜŸȝ ·(ǯÀǩ Ƙɖ)

gÀŧÇÊţä ğÀÛĦţä ÀŢŢǨ ƟøÇöäş Ûğ ғÀΣä åÆ3 ҽŸ3 ǤɳÀĦöä ǤĦÔöä Ž ÆÌÒöä ǤŽÜ ÀÔÇÖǨ ғ ÀǪɟä ɉÜ ÀŧÕ ÜǤÀÖǨ ҽȓÀţä ȡɳ %100 ğɀɀ ·ǤɘÀÕöä ǤÕÕΣä Ž ÀŷÛş ÛǤÊφ ǤŸę ÀŒÜ 3ɳ ƙȓɀȒĦţä ÆÔÀ ɃØöä ĘŸÕöäş gÀφÀĦţä ÕŧÎÀ äØĿş ÛǤŽÜ Õęüæ ȄÖ ƟÀùÀĦöäş ƟÊÀÀöä ƟøÇöä ğÀ3ÀÊöä ȡ3 ǤƤÀφ ǤÀåÀÔÇęä ğäøÀÊǹ ȭÀÅĿ ɉÜ ÀŧÕ Ü ô Àţä øɀÛǨ ȡɳ 8ɀʅä ôÀĦÇöä ÆĦæ ǤƨÀĦɳ ÎÔÅì 453.769 ҽÕǨ ·ÆÌÒŸö gåÀȒţä ǤƨÀĦţä ƟÕŸǪö ȌÁÎöä ÀŢȒɀ ÕŧÕÜ Û933.260 ƁÜ åÆĦöä Õòş 1999 ȳÀ3 ȯɀŸŀş ÛɈäÆŸæ 106 Ž 1991 ȳÀ3 Ž ÆÌÒŸö .(PAHO data, 2000) ô ÀĦÇöä ÆĦæ ǤÈÀÖǨғä ǤƨÀĦţä ɭŢÀɳ %33

ÆŸǤöä ÆÊǵ ƙǪÕÒÀÀɳɟä Ž ɃÀÎǤöä ÆÌÒöä ȡɳ ÀŢÀ3 ɳŸǤţä ğ ғÀĦŸö ƟøÛèɀöä ɃɀÀÊöä åÆĦöä :5 ȯşÆƨä .2000 – 1980 ǤÕÛÀţäş

| ǤÕÛÀţä/ÆŸǤöä | 1989 – 1980 | 1999 – 1990 | 2000 |
|---|---|---|---|
| ÀÀÆφɟä ǤÕÛÀɳ | 79.0 | 65.9 | 18 |
| ÀŽÀŽöɀæ | 11.1 | 10.3 | 3 |
| ÀǤɳɀöɀȭ | 14.3 | 5.2 | 7 |
| øşåäɀȭɟä | 21.5 | 21.6 | 3 |
| şƘǤöä | 26.4 | 26.6 | 4 |
| ƔÀşÂøÀɀ | 5.7 | 2.2 | 1 |
| ƟøæɀÀƨä ȓşÀÅţä | 5.0 | 4.8 | 1 |
| ƙǪÀǄøɟä | 0.8 | 0.5 | 0 |
| ƟŸŽÎǨ | 0.8 | 0.1 | 0 |
| ɃäɀɖäøÀǤöä | 3.4 | 4.2 | 1 |
| ɃäɀɖäøşɈä | 0 | 0 | 0 |
| ÕÀäÐö | 84.8 | 40.9 | 26 |
| ҽÛèɀöä ÀÒÀÀɳÜ | 32.4 | 19.7 | 11 |
| ÂŽŸŽæ | 0.5 | 0 | 0 |
| ÀÒÀøÀÇèɀȭ | 0 | 0 | 0 |
| øşåÀÀŸÊöä | 16.4 | 8.9 | 2 |
| ғÀŧŽäɀɖ | 8.0 | 7.0 | 6 |

| | | | |
|---|---|---|---|
| 3 | 2.8 | 5.4 | [illegible] |
| 0 | 1.0 | 2.1 | [illegible] |
| 0 | 0 | 0 | [illegible] |
| 4 | 30.6 | 62.0 | [illegible] |
| 1 | 2.9 | 6.2 | [illegible] |
| 0 | 0.5 | 0 | [illegible] |
| 0 | 1.2 | 4.0 | [illegible] |
| 1 | 1.2 | 2.2 | [illegible] |
| 6 | 2.7 | 1.0 | [illegible] |
| 1 | 0 | 0 | [illegible] |
| 5 | 2.7 | 1.0 | [illegible] |
| 67 | 167.5 | 70.4 | [illegible] |

.(PAHO) SIRVERA [illegible]

[illegible] 106 [illegible] 1991 [illegible] 21.248 [illegible] .(WHO data, 1991) [illegible] 6 [illegible] .2000 [illegible] 1990 [illegible]

[illegible] :6 [illegible] .2000 – 1990 [illegible]

| 2000 | 1999 – 1995 | 1994 – 1990 | [illegible] |
|---|---|---|---|
| 255 | 1.229 | 2.649 | [illegible] |
| 0 | 252 | 1.115 | [illegible] |
| 66 | 101 | 162 | [illegible] |
| 79 | 502 | 708 | [illegible] |
| 54 | 247 | 574 | [illegible] |
| 56 | 125 | 90 | [illegible] |
| 57 | 466 | 336 | [illegible] |

| | | | |
|---|---|---|---|
| 4 | 10 | 61 | [illegible] |
| 0 | 0 | 1 | [illegible] |
| 53 | 456 | 274 | [illegible] |
| 0 | 0 | 0 | [illegible] |
| 761 | 1.072 | 669 | [illegible] |
| 179 | 3.729 | 623 | [illegible] |
| ... | 7 | 1 | [illegible] |
| 0 | 0 | 0 | [illegible] |
| 35 | 138 | 92 | [illegible] |
| 126 | 163 | 144 | [illegible] |
| 18 | 52 | 342 | [illegible] |
| 0 | 19 | 44 | [illegible] |
| 0 | 0 | 0 | [illegible] |
| 244 | 3.669 | 4.803 | [illegible] |
| 94 | 97 | 107 | [illegible] |
| 24 | 34 | 28 | [illegible] |
| 31 | 27 | 28 | [illegible] |
| 39 | 36 | 51 | [illegible] |
| 1.590 | 3.912 | 9.187 | [illegible] |

... [illegible]

.(PAHO) SIRVERA [illegible]

[illegible] 1991 [illegible] 18.634 [illegible] %90 [illegible] (WHO data, 1991) [illegible]

[illegible] 1940 [illegible] (*V. vulpes*)

[illegible] (*A. lagopus*) [illegible] 58 [illegible] (*Pseudalopex griseus*) [illegible] Durán and Favi,) [illegible] %8.62 [illegible] (1989 [illegible]

[illegible]

[illegible] (*Herpestes auropunctatus*) [illegible]

[illegible] Beran,) [illegible] (Winkler, 1991) [illegible] (1981 [illegible] %80 [illegible] 104 [illegible] 1984 [illegible] 1971 [illegible] (%80) [illegible] (1984 – 1980 [illegible] (*Procyon lotor*) [illegible] (*Marmota monax*) [illegible] (*Rattus* [illegible]) [illegible] 3 [illegible]

[illegible] Rupprecht *et*) [illegible] .(*al.*, 1991

[illegible] 1953 [illegible] *Eptesicus serotinus* [illegible] 104 [illegible] 550 [illegible] .*Pipistrellus* [illegible] *Myotis* [illegible] 23 [illegible] 1986 [illegible] (*E. serotinus* [illegible] *Pipistrellus* [illegible]) 1989 [illegible] 249 [illegible] .(Netherlands epidemiologic data, 1990) [illegible] 1 [illegible] 13 [illegible] 530 [illegible] (G) [illegible] 8.645 [illegible] 647 [illegible] .(Oelofsen and Smith, 1993) Krebs *et al.*,) [illegible] 1992 [illegible] 1993 [illegible] .(1993 [illegible] 3 [illegible] 17 [illegible] .(Chomel, 1993) [illegible]

[illegible] 1 [illegible]
[illegible]
[illegible] (*Desmodus rotundus, Diphylla* [illegible] 3 [illegible]
[illegible] *Diaemus youngi*, *ecaudata,*
[illegible] *Desmodus* [illegible] (*D. rotundus*) [illegible]
[illegible] livestock [illegible]
[illegible]
[illegible] 1999, 1991–1990 [illegible] 7
[illegible]
[illegible]
[illegible] livestock [illegible]
[illegible]
[illegible] 50.000 [illegible]
[illegible]
[illegible] 44 [illegible]
[illegible]
[illegible]
[illegible] 1929 [illegible]
[illegible] 1953 [illegible] 180 [illegible]
[illegible] 43 [illegible] 9 [illegible]
[illegible] 1990 [illegible] 4 [illegible] 29 [illegible] (Nehaul, 1955)
(López *et al.*, 1992) [illegible] 636 [illegible]
[illegible]
[illegible]
[illegible]

ȸɳ ǦĘōȦṅ ǦĘĄĘǨƳöä ȦÒÄȦɳǕ Ž Ǧŧòȧ3 21 ȸɳ Ǧŧòȧ3 20 ǨφȦõ ·ʔȦṅǕ ȷäǼŸæ Ž ǦĦĐǱȦφ ǦÕÛÄɳ Ž ǦÄȦÎǦöä ğɍȦΣä åǼ3 ȷȦõ Ǽęş Ǖ2000 ӯȦ3 Ž āŸÒöȦæ òʐŌȦţä ɃȦÎǦöä ÆĪĳǷöä ğɍȦǵ 8.505 ǨÔÅì ·(PAHO data, 2001) ǦöȦǵ 100 ȸɳ ŌęǕ ǦÄäǼǦöä Ž ƙQĘÒÄȦɳǰä 182 БǕ 1992 ӯȦ3 ʅęȦöä ȐȦŸä ȸÒö ǕġǼĦǬţä ğȦȦɍʐöä Ž 1945 ӯȦ3 ɄøǦŸÒöä ÆĪĳǷöä ȸɳ ʅǱȦǩ ·(ɄøφäʐĘΣä ÆĪĳǷöä ğɍȦǵ Ȯõ ȸɳ %2.11) ɄøφäʐĘΣä ÆĪĳǷöä ȓȦẏǕ Ȯõ ȸɳ ǦöȦǵ ȸɳ Ȁʒōǔ ǦÄƎöä ğȦφäʐĘΣä Ǝ3 òȦŌQφɍä ȸ3 āŸÒöä Ʉę ϙǼƠ Ǩöäȧɳ ɄøQöä ÆĪĳǷöä ğɍȦǵ ʔŸ3 ŏȦȒŌöä Ź ƙǵ Ž ɃƎöä ÆĪĳǷöä ȀŧQÊĘʐ ǕäǼȦõ Ž Ȧɳǔ ·ȀṅǓ БǕ ÆȚõ ȸɳ òȦŌQφɍä ØȦɳ ȉĘʐȦȦʅä ȸɳ ǦÛŌQŸţä ɃȦÎǦöä ÆĪĳǷöä ȸɳ ȔŌʐ ğɍȦǵ ϙŸǭ ŏȦȦŁş ǕɄøǦŸÒöä ÆĪĳǷöä .1971

:1999 ǕȖ1991 ǕȖ1990 ǦĘæʐȦƨäş ʔÛèʐöä ȦÒÄȦɳǕ Ž ɃȦŌǦöä ÆĪĳǷöä ğɍȦǵ åǼ3 :7 òşǼƨä

| 1999 | 1991 | 1990 | ǼŸǦöä |
|---|---|---|---|
| 31 | – | 1 | ƙQȦǱʐøǰä |
| 6 | 0 | 0 | ȂĘŸĘæ |
| 41 | … | … | ȦĘȦĘŏʐæ |
| 2.628 | 1.781 | 1.871 | ŌÄäȧƎöä |
| 0 | 0 | 0 | ɄŸĘÎǩ |
| 0 | 45 | 51 | ȦĘǦɳʐȯʐõ |
| 2 | 3 | 7 | ȦÒÄøȦQèʐõ |
| 7 | … | … | Ȧæʐõ |
| 6 | … | … | ȷȦÒĘŧĘφşǼöä ǦÄøʐȚƤ |
| 20 | 25 | 26 | øşåäʐõɍä |
| 5 | 17 | 10 | øşåȦȦŸÊöä |
| 3 | 26 | 23 | ɍȦŧĘǨäʐȡ |
| 6 | 4 | 11 | âäøşǼȦŁ |
| 108 | … | … | ŌĘÊÒţä |
| 3 | 1 | 2 | äʐõäøȦÒĘφ |
| 96 | 4 | 15 | Ȧŧȧæ |
| 95 | 62 | 48 | Ƀäʐȡäøȧæ |

| | | | |
|---|---|---|---|
| 49 | 20 | 32 | [illegible] |
| 0 | 0 | 0 | [illegible] |
| 30 | 198 | 128 | [illegible] |
| 3.136 | 2.186 | 2.225 | [illegible] |

[illegible]

.*Bull Epi Surv Rabies in the Americas* 31:30.2000 [illegible]

[illegible] 8 – 2 [illegible] 8 [illegible] 10 [illegible] 90 – 20 [illegible] 6 [illegible] .(Bernard and Fishbein, 1990) [illegible] 500 [illegible] %10 [illegible] %4 [illegible]

[illegible] excitation [illegible] .hydrophobia [illegible] 6 – 2 [illegible] Bernard) [illegible]

[illegible] (and Fishbein, 1990 [illegible])

[illegible]

[illegible] dumb [illegible] furious [illegible]

[illegible] [10] [illegible]

[illegible] prodromal

[illegible] 3 – 1 [illegible]

[illegible]

[illegible] 11 – 1 [illegible]

*oulou fato* [illegible]

[illegible] furious [illegible] Negri [illegible] (Beran, 1981) [illegible] *Oulou fato* [illegible] 4 – 2 [illegible]

[illegible] 25 [illegible] 150 [illegible] paretic [illegible] priapism [illegible] tonic-clonic [illegible] snout [illegible] spittle [illegible] emaciation [illegible] 3 – 2 [illegible] 10 – 8 [illegible] 5 – 2 [illegible]

Canidae

Skunk coyote

raccoon mongoose

100

10

6

9 – 4 4

18

[illegible] myocytes [illegible] axons [illegible] (Baer, 1991) [illegible]

[illegible] centrifugally [illegible] centripetally [illegible]

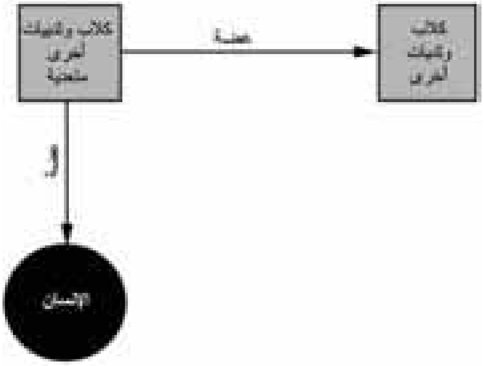
[illegible] germinal [illegible] 14 [illegible] 3 [illegible] 1 [illegible] 9 [illegible] 4 [illegible]

óζŢş ŌǤ ǞηζΛ 13 Бǔ ŌÔǩ ğÆη ŌηǞǞöä dzÂÛǩ ɄøǞζǞǔ ŌòǓ фη âşǨÀö ôÀǨǪöä ÆǨä ǴǞǑǪöä ÆǨä ÆǞǪÒǞä ǨǴǞòǓ ɄøǪöä ǞǦǓõ 16 фη 8 Ǩģÿ ƙģ Ž ÛǴÀÀÊöä ğäÀĿÀŢǪöä ǰǪǪèä Æęş · ôäÀ3ɉä óζŢş ŌǤ ӯÀǓ 7 Бǔ ŌÔǩ ğÆη âşǨÀöä ɄÓǞÊÓη ŌòǓ фη âşǨÀä ·âşǨÀöä ǴÀøæ ʔŸ3 ÀyǓş Ǵ3Àƨä ʔŸ3 ÙŌζ ÈǞö ÆŁǪǨΛ āÀǨŸöä Ž âşǨÀöä óζŢş Ǩęş ɈǓ Àŏ ʔòζΛ ɄøǪöä ğÆţä ɄĿ ǾØĿ ɈǓş ӯÀǓ 10 фη òζüǓ ğÆţ ȼģÂü фÒƹ âşǨÀöä ɈǓ Àηş ˸ÙÛŌöä Ž ·(Fekadu *et al.*, 1982) ğÆţä ǾØĿ ÆǪǪ ɈǓ dzÀǪŌΛ ȼǪüζ Ûô ÀǨöä ÆŸÓöä ǴǤäÀţ ÛǴÀÀÊöä ğäÀĿÀŢǪöä óζÛǩ ŌǤ 3 – 1 ӯζǞöä ƙä ϙÆȜ āÀǨŸöä Ž âşǨÀöä dzÂü Ɉüä ǨǴǪǓ БÀŁÎöä ÆÛŌöä ÆöÀǨǪ Žş Û14 ӯζǞöä ʔøǪģ ɈÀäÀŢöä Žş Û2ş 1 ӯζǞöä ƙä ǴǞìÀţä Ž ǈǪΛş ·(Beran, 1981) ğåÆȚ Ǩɖ ğÀǪÀö ŏÀηÆŸö ǴŁŢÀöä Ǩɖş ǴòÀÔţä ÌǞζÀÀʅä Žş ǴǶǞǶÔöä Ɉüζ ÛğǨǰõ ɈÀǞģǓ Ž ÀÓǤηş ÀäÀ3ş øÀǞǨöä ȒÀÂÀη ӯå âǨÀǩ ϙşÆģ ğÀǴǪǓ ǈɖøş ÆǨŸΛ òÀŌǪɎä фη ÙŁÀöä äØĿ ɈǓ øÀŢşǓ ǞÀÒư фÒΛ Ɓş ÛǨǴǰΛ Ɓ âşǨÀŸö ɃζηÆöä øÀÎǪɎä ·ÆǞǪÒöä ôäÀηǓ Ž øşå ɃǓ

Ž ÆǞǪÒöä âşǨζ ʔŸ3 ŞζÀȜ ɃØöä ɄøǪζǞΣä Ƀζǰöä ˸òÀŌǪɎä äÀüş ʔşÆǨöä øÆÔη ÛʔÀǹɉä ǴȓÀǨöä Ǩɖ ğÀǪäζǞΣäş ÆìäζǨöä ÆǨŸǩ Ɏ · ÌǞζÀÀʅäş ǈģäζŸöä ζĿ ǴǨǞǴÛöä · ôÀţä ğÀǞǝÀäş Ž øşå Ƀǔ lagomorphs ğÀǞǴǪøɉäş ôøäζŌöäş ǞǴÀÂŌǩ %90 ǨÀÂ3 ·ɃÀȒΣä ÆŸÓŸö ɄÊǞǝÀöä ŌηǞǨöä ζĿ ÆŸÓöä ˸(25 üɩʅʅ) äþȚɵʅ ƒǞʅ фη ʔşÆǨöä ŌŌǪÀǩ ·rabid ǴǞÓöä āƔÓöä Бǔ ƁÀǨöä Ž ÆǞǪÒöä фη ǴÀÎǴöä ğɎÀΣä Ōõ фη ǴŸÀŌöä ǴDzǞǪÀöä ǈɖøş ·ğÀȒǨöä Ǝ3 ǴADZäÆöä ğÀǪäζǞΣäş ɈÀÊǪqä Бǔ ÆŸõ фηş ÀǹǓ Бǔ ÆŸõ āƔÓöä фη ǈŢη ŏÂDZ åζDZζä ǴÀȒΣä ĘüÀÀţä Ž ÆǞǪÒöä ʔŸ3 ǴŢζÀɨä ǈǪǩ ȼǪüζ Ûô ÀŁŸö Ž ǴŁŢη Ōηäζ3 ɃζÀÊöä ÀĿÀǪÀÓǪö ǴǞöÀǨöä ğɎÆǨţäş āƔÓŸö ǴǞöÀǨöä ǴζÀǰÓöä ɈǓ ·ğÆǨǪÊţä Ž ÀǹǓ ǈŢη ŌηÀ3 ·ʔÀǹǓ ǴǞζäÀ8DZ ĘüÀÀηş ǴǞÆǞƔöä ÀÓΛÀηǓ Ž ɄøǴŸÓöä ÆǞǪÒöä ğÀζäζè Ž ǨǴǪǓ ÆŌζ ˸āƔÓöä ȒǨä Ž ôÀŁŸö ŌΛζÛöä ǴǪÀȒΣä øşå ζĿ âşǨÀöä ʔŸ3 ǴŢζÀɨä Æęş Ûô Àţä ŏÆä фη ǞηζΛ 13 ʔøǪģş Û3ş 2 ŌǤ āÀǨŸöä Ž ÀŢŢΛ âşǨÀöä ɈǓ ğǨǰõ ğɎÀģ āƔÓöä Ōõ dzÂÛǩ Ɏ ˸Ōõ ʔŸ3 ·ɈäζǞΣä ğζƹ ʔøǪģ ĘÀÂÛöä äØĿ Ǝ3 ŌηÀǨöä dzÂü ÀŁǪÊΛ

[illegible] %75 [illegible] %60 [illegible]
[illegible]
Fishbein and Robinson,) [illegible]
[illegible] %40 [illegible] .(1993
[illegible] (Helmick, 1983; Bernard and Fishbein, 1990) [illegible]
[illegible] %20 [illegible]

[illegible] 25 [illegible]



370.000 [illegible]
[illegible] 260.000 [illegible]

854) 3.295 100.000 15 %43.8 %47.9 .(Szyfres *et al.*, 1982)

.(Diesch *et al.*, 1982)

"abortive" 114 1.015 cerebroneutralization

.(Díaz *et al.*, 1975)

ƟÖæş 39 ğÀŋ ÆĬĵĎöä âşǨÀæ ǨĦÖö ĬĠŸõ 47 ʔŸვ ǦĒĠÀΘ Ǧèäøá Ž ·ôÀţä ȸŋ ǨĒÀì ÀŤÀŋ ɃǗ ÆÀვ ÀŤŢÀ Ɓş ƙǪÀè ǥÆŋ ǦĒǵ ǨĒÖæ ƟøǪöä ğÀφäʐĒΣä ǦĒÖæ ǦĦæÀǪŋ ǨǪ ·öÀĒǵǗ 8 ვŋ ǦĒφÀȶǯöä ğÀφäʐĒΣä ȻØŁ ǨĦÖö ÀŋÆÀვş ·ƟვÀÅÀöä ÕəÀÊöä şǗ ÕÔţä Ž ǦöÆĦǪÊŋ åäÆȓǗ ǨĒÖæ ƟøǪöä ǦĒφÀȶǯöä ȸŋ ɃǗ ǨƸ Ɓ ˸ţøÀÎöä âşǨʐ ȸŋ ǦĒöÀვ ǦვÀƛ ǥÆŁÀì ğÀφäʐĒǵ 10 ǨŋşÀę ƟøǪöä ǦĒφÀȶǯöä āŸÒöä ʔÆö ȷÀõ ·ÆĬĵĎöÀæ ÆŁäʐÎöä ǥÀÎĦöä ǨǦĒòǗ ƙǵ Ž ÛǦĒǵ ǦÀÀõäæ ǦæÀǲʐǪèä БǗ ƘÎÀ Æę ɃØöäş ÛÒÔţä Ž åäÆȓɉä ȸŋ ȹÀვ ʔʐǪÊŋ ɃÆĦǪöä .(Fekadu and Shaddock, 1984) anamnestic

¯ ÀöÀĦö Ž âşǨÀöä ǳʐÀÛǩ ÛĬÀÀŁÀş Ǧʐè ğÀφäʐĒǵ ɃǗ ¯ ǦŸȶĦŸö ÕȶǪɉä åʐǲʐöä ȷÀõ ǦöÀǵ åʐǲş ʔŸვ ǦŸʐü ǥÀǪÀöş ¯ ვÀÖŋ ȷÀŁÀæ õÀÀŁ ȷÀõ ·ǦŸʐü ǥÀǪÀö ȯäÆǲş ȇÀÖφ ვȓʐŋ āÀĦö ȸŋ ÛǦŸʐü ğäÀǪʐ ȯŸńş ÛÆŤäş ÀĒæʐĒǪǗ Ž âşǨÀöä åÀÀǪèä ˸Öõ ʔŸვ ÛÆĬĵĎöä Õƥ ÀŤÔĦʐ Ź ĬÀÀŁÀş ĬĦĒĦò ĬĠŸõ 1.083 ȸŋ 5 ȷÀõ ·ôäÀვǗ ȸŋ ƟøφÀĦǩ ɍ ǥÆÀÆვ āŸõ Ž ÀĒæʐĒǪǗ Ž ĬÀńúŋ ÕȶΣä ǦöÀǵ ǨǪĠǪǗ ·ვÛÖǪŋ ÕȮÎæ ÀöÀĦö Ž âşǨÀöä ǳʐÀÛǩ ÀĒæʐĒǪǗ Ž ĬĦĒĦò şÆĠÀ ÆĬõ āÀĦö ȸŋ åÀÀǪÊŋ âşǨÀæ ƟŸȒĦöä ǴĒÖŸǪÀæ ĬĠÀΘ ǨÀÆვǗ bitch ǦŸõ 305ş 169ş 42 ȳÀɉä Ž ÀöÀĦö ȸŋ âşǨÀöä åÀÀǪèä ·ǨĒÀì Ż ÀŤĒʐ ÆĬĎöä ÀŤşş ÛĬÀÀŁÀş ÆĬĵĎöä âşǨʐ åʐǲş ǨǦǪǗ ·öÀÀÎöä ȸŋ ĬÀŤì 16 ÆĦæ ƙÔĒŸŋ ȸÀşÀǲ ğÆöş Ż ÛöÀÀÎöä ÆĦæ Fekadu *et al.*, 1981; Fekadu) ÀŤÀŋ ʔÀńǗ öÀȒვǗ şǗ ÀŤɋÀŋá Ž ǨǦǯÀ Ɓş ÀŤĒǩäʐö Ž Ƙ8Ǫţä ÀŋÆÀვ ÆĬĵĎöä âşǨʐ ʔŸვ ǦŢʐÀĦȶŸö ȳÆơ Æę ÕȶΣä ǦöÀǵ ȷǗ ôÀǪʐä ÆÖö ·(*et al.*, 1983 ÆĬõ ȸŋ ǦȒĦöä ȷǗ ƎǪĦφ ȷǗ ȴŤţä ȸŋ ÛÕöØõş ·ǥÆĦǪÊţä ğÀφäʐĒΣä ȸŋ ǦĒöÀǯŋ ǦʐÀǯõ Æǲʐǩ .(Fekadu, 1991) ÆĬĵĎöÀæ ǦφʐüʐŋǦÖÛÀŋ Ž ʔşÆĦŸö ÕȶǪŢ øÆÔȶõ (ÂÀǪÊŋ) øÀǯŋ Ƙɋ

ǪĒǵ ÛòÀÖä äØŁ Ž ȷÀǪʐşÀĦŋ ȷÀǪöÀǵ õÀÀŁ ÛøåÀφ ȷÀÊφǗ БǗ ȷÀÊφǗ ȸŋ ÆĬĵĎöä òÀÖǪφä õÀÀŁ ȸÒÀ Ɓ ·ÀÊφÀʐ Ž ʔÀńɉäş ÛǥÆĦǪţä ğÀÀɍʐöä Ž ǥÆǵäş ÛǦĒφÀę ǦèÀ8æ ÆĬĵĎöä ÕÖǪφä ğÀφäʐĒΣä ǦĒφÀę Ž ÆĬĵĎöä âşǨʐ åʐǲş ǨǦǪǗ ·ţƎǪţä ÆÀვ ÆĬĵĎöä åʐǲʐæ Õì ʔøφåǗ òÀÖǪφɍä Ž Õöæ ǦÎçÀÀŋ ÀŢφä) ÀìÀǦţä ƟვÀÀţä ĘöüǪöÀæş impression Èȶ8öä ǦĒÀÖǪæ ȷÀÊφɋäş ·(öäʐŢä Ǝვ

ĬŋÀǪ ǦÕÀÀÛöä ÈÀÀæ ǦĦĒǦÛöä Ž ǦÀƎöä ǥÀĒΣä Ž ÆĬĵĎöä (ÆŸƸ) ǤÆǪÊÀ ˸ƕÏƥǦĨ ŸƑÏΘĨ Ĭʒ ƒĬĨ

[illegible] ecosystem [illegible] (*Urocyon cinereoargenteus*، *Vulpes fulva*) [illegible] (*Mephitis mephitis* [illegible]) [illegible] %50 [illegible] 1992 [illegible] Raccoons [illegible] .(Krebs *et al.,* 1993; Chomel, 1993) [illegible] (*Procyon lotor*) [illegible] (*Alopex lagopus*) [illegible] enzootics [illegible] .(Beran, 1981) [illegible]

[illegible]

[illegible] renewal [illegible] %70 [illegible]

[illegible]

[illegible] (%30) [illegible] 1.675 [illegible] 498 [illegible] 4 [illegible] (Everad *et al.*, 1981) [illegible] (Bigler *et al.*, 1983) [illegible]

[illegible]

[illegible] 10 [illegible] 17 [illegible] 18 [illegible] 99 [illegible] 24 [illegible]

(Lord *et al.*, 1975)

(Frio Cave)

*Tadarida brasi-*) (Constantine, 1971)

(*liensis*

(Winkler *et al.*, 1972)

dams

cannibalism

[illegible]

[illegible] reagents [illegible] conjugate [illegible] (WHO, 1984) [illegible]

[illegible] kit [illegible] (WHO, 1992) [illegible]

[illegible] [3] [illegible]

%90 %80

immunogenic

capacity

(Budzko *et al.*, 1983) (Díaz, 1983)

(Nicholson and Prestage, 1982)

neuroblastoma

(Na CI300)

15 – 10

[illegible] .(WHO 1992) [illegible]

[illegible] (1 [illegible] (3 [illegible] (2 [illegible] (4 [illegible] .1 [illegible] 40 [illegible] .(Escobar Cifuentes, 1988) [illegible] 13 – 8 [illegible] (1993) [illegible]

[illegible] .(Beran, 1991) [illegible]

[illegible] .(Meslin, 1989) [illegible] culling [illegible]

[illegible] %80 [illegible]

[illegible] (LEP [illegible]) [illegible] (HEP [illegible]) [illegible] .(ERA [illegible])

[illegible] (SMB) [illegible] CEPANZO data,) [illegible] (Fuenzalida-Palacios) [illegible] .(1980

Flury .(Sikes, 1975) 3 %80

(PV-BHK-EL) BHK

%89 25 12

.(Larghi *et al.*, 1979) 3

3 3 %70 %100

.(PAHO data, 2000)

[illegible] .(Hanlon, 2002b) [illegible] .2 [illegible] .terrestrial [illegible] ERA [illegible] PV-BHK-EL [illegible] SMB [illegible] diphenadione [illegible] ("mist [illegible] gas chromatography [illegible]

[illegible] %1.17 (Burns and Bullard, 1980) [illegible] Vaseline [illegible] warfarine [illegible]

[illegible]

[illegible] valid [illegible] Everard *et al.*, 1972; Everard *et al.*, 1981; Cavey *et al.*, 1978 [illegible] WIRAB [illegible] ERA [illegible] Street Alabama Duffering (SAD) [illegible] (BHK [illegible] .Vnukovo-32 [illegible] SAD-B19 [illegible] SAD-Bern [illegible] ERA [illegible] innocuous [illegible] SAD [illegible] mutant [illegible] SAG [illegible]

·ĞÅƎöä gÅĿΣä Ž şǘ ƎǪÅţä Ž öäɀè Û ô øäɀÕŸö ǺȑÀư
(ȝÅDZÆöä âşǗø) ӯɀȞÛöä Ž Ʒèäş ȧÅÛφ ʔŸƷ äÅÊÅɀè Ž SAD-Bern dzÅÖö ӯÆÅǪèä ÆǶϷöä ȸŋ ğɍÅǵ ǫŸǭ ǨÅÎõ ӯɀȞÛöä ȸŋ ǦȞÛę Ɉɀľŋ 1.3 ƷÅäɀǩ ÆȞæş ·ÆöÅȞǯöä ǴĿÕŸǪö ÅÊφÅɀş ÅÖĿDzŸä Ž ӯɀȞÛöä ȸŋ ǦȞÛę Ɉɀľŋ 20 Ž SAD-B19 dzÅÖö ţäş ·dzÅÖŸöÅä ǫÆƚä ʔÀǹɉä ğÅφäɀĿΣä şǘ ÆöÅȞǯöä Ž ğÅĿɀɀöä ȸƷ ÀÅøÅÖǩ ɃǗ Ɉşǻ ȟøɀĜƚÊõɀöş ÅĿöÅÛÅǘş ÅĿφÅţǘş Ž ǨƷäş ·(Åŋ Ɉäɀǵ ȼĿɀ ÆDZäɀǪÅ ɃØöä ɈÅÖţä) range Ɀöüţä ÈÅφ Ž ÅȾȞŋ õøÅÎǪǩ Ɣöä 1989 ɄŋÅƷ ƙä SAG dzÅÖö ʔŸƷ ɃşÅΣä ĻȞÛöä ȸŋ ǦȞÛę 250.000 äÅÊÅɀèş ÅÊφÅɀ ÅÖÅÀŋǗ Ž ǦèäøǻğÅȾşǗ ·(WHO, 1992) dzÅÖŸöä ȸƷ ǦƤÅφ ğÅĿɀş Ƀǘ ǫşǻ Ɉşǻ 1991ş ƙäÅȚöäş ƙõäşÀöä ƙÔƠ Ž ĿɍÅȞɀ ɈÅõ ȸĿɀţä SAG-2 dzÅÖŸö ɃɀƚÀöä öÅÛƷqä Ɉǘ ǦĿöÅƚÎöä ƙǩşƎöä ƙDZ ȸƷ ƎȞÅ (RVG) āɀìüŋ dzÅÖö øɀü ·(Hanlon *et al.*, 2002a) skunks äÅÅĿõ ƙDZ ǦöäàǗ ÒÕφǗ ·vaccinia Èęɀöä âşƘɀ ɀĿ ȼŸęÅφ ÛÆǶϷöä âşƘÅö ɃÀÖÊöä Ōǹäǻ ǨĿÛƷǗ ÅŋÆÅƷ ɈäÅÅÅö ğÅǵÅÖŸöä pathogenicity ǦĿȑäÅŋǗ ÛƘĜõ ŌÖÎæş ÛȸÅÆĿƚĿǪöä ɃǗ øÅȾşǗ Ž ǦĿφäɀĿΣä ţäɀφɉä ȸŋ ǦÅÅäÆö ɃɀƚÀöä ǴĿÕŸǪöä ŌÎɀ ·ȧÅÅÔöä Ōǹäǻ şǗ Ǹţä ǨƷäş ·ÅȾĿɀ ɄÛƷǗ Ɣöä ǦÕÛÅţä ȝøÅǹ āɀìüţä âşƘÅŸö øÅǯǪφä şǗ (ǦĿęÅä) ǦĿöÅq ǦĿȑäÅŋǗ Ɉşǻ 1990ş 1988 ɄŋÅƷ ƙä dzÅÖŸöÅä āÀÎţä ĻȞÛöä ȸŋ ǦȞÛę Ɉɀľŋ ÅÊφÀɀş ÅÖĿDzŸä Ž ȯÅȞɀ āɀìüţä ɄÊęɀöä ÆǶÖöä âşƘɀ Ɉǘ ÆDZş ·(WHO, 1992) gÅəÅȑ øÅǭǗ gÆĿÅÎŋ .(Aguilar-Setein *et al.*, 2002) ȉĿɀÅÅʅä

ÀȾş ȸÖö Û1955 ӯÅƷ ɃƎöä ÆǶϷöäş 1950 ӯÅƷ ÅĿöÅǪèǗ Ž ɄøǦŸÖöä ÆǶϷöä Ōòúǫèä ӯÅƷ ÆöÅȞǯöä ƷĿÅƚǪä ÙÆǪää ·ÆöÅȞǯöä gÅȾƤ î ÅÖφq ǦŸþ ǴDZÅǩ Ƀ ·1966 ӯÅƷ ǦĿφÅǭ Ƙǹɉä ţäş Æę dzÅÖŸöÅä ȉäÀÎŋ ȉƚȞü 1.200.000 ǨφÅõ 1991 ӯÅƷ ȯɀŸǛş ÛĻĿöÅęɉä Æǵǘ Ž 1986 ǦĿöÅǪöä ǦÅÊöä ȯɀŸǛş ·1993 ӯÅƷş 1992 ӯÅƷ ȻØĿ ǴĿÕŸǪöä ğŸþ ğÆĿƷǗ ·ĻĿöÅęɉä Ōõ Ž ÅȾŸƚÎǩ Ƀ ǦÕÛÅŋ ɄĿş ÛȟÀäÅöÅè ĻĿŸęǗ Ž ôÀţä ÀȾşş ÛĻĿöÅęǗ ǦǬŸǭ Ž ȉÅõÀŋ ÆǶϷöä ɈÅõ ǴĿÕŸǪöä ÆȞæ ÆöÅȞǯöä Ž ÆǶÖöä ȸŋ ǦĿöÅǹ äÅÊÅɀè ǨȞǦòǗ ·(WHO, 1994) ğŸƚΣä ǦŸƚΣä ȻØĿ dzÅDzÅö ǦDZĿǪφş ·ğɍÅΣä ĻȚȞŋ Ž ÆĿöÅä ǨƷäş ɄøǪöä ĻȞÛöä ȸŋ ƷÛõä ɃɀƚÀöä ɃƎöä ÆǶϷöä ȸŋ ǦĿöÅǹ ÅĿöÅÛÅǗ ǨÅŸƷǗ ·ǦĿìÅţäş āŸÖöä ǴĿÕŸǪö ȝÅǪƠ ğÅÅɍş gÆƷ ÆȞǩ ĻŸɀ

[illegible] RVG [illegible] SAD-B19 [illegible]

[illegible] 3 [illegible] 6 [illegible]

[illegible] 4 [illegible] SMB [illegible] immunogenic [illegible] 10 [illegible] × 1.700 [illegible] encephalitogenic [illegible] 12 [illegible] 10 [illegible] booster [illegible] 0.5 IU/ml [illegible] 6 [illegible]

[illegible] (HDCV) [illegible] (WHO, 1992) [illegible] 28 [illegible] 7 [illegible] 0 [illegible] %99 [illegible] %100 [illegible] inoculation [illegible] %1 [illegible] Turner *et al.*, 1982; Dreesen *et al.*,) [illegible] (1982.

[illegible] 46 [illegible] 108 [illegible] (HDCV [illegible] 10.000 [illegible] 11) [illegible] anaphylaxis [illegible] 9 [illegible] 108 [illegible] 21 [illegible] 2) [illegible] I; 87 [illegible] III [illegible] (CDC, 1984) [illegible] 12 [illegible]

[illegible] inoculated [illegible] %0.1 [illegible] %70 [illegible] %40 [illegible]

ȷǚ ǴĒǫäɀĒΣä ğäǮǪÅţä Ž ğäøÀǤǪǹ ғä ğÀȚşǚ ·ǁǿɀɀ dzÀƨä ȓÀƩ ғǚ Æƶ ·Ʉ3ÀǽÀöä ȳɀĒǫɀŋǰä ÆÀÀÊǪǽ ʔòɀÀ ÕöǾöş ʔşÆȞöä 3Àŋ Ž ǁÆDZ ǴöÀȞɀ ǴŸĒèş ÆǁȮŸö åÀȒţä ŌÔţÀǽ ÆŸƨä dzÀìøǚ ·ƙǪĒöǰä Ž ŌȒȞöä ŌǹäǻÒ ȸ3 ȷǚ ÆDZĒɀ ŌÔŋ Ƀǚ ɄŌǽ äǽǚş ·¢öɀǵş dzÀƨä Ž ŌÔţä ·ÆǁȮŸö ǴĒ3ɀÀöäş ǴŋÀȞöä ǴƨÀȞţä :8 òşÆƨä

| ĘǽÀÊöä ǴĒŌŸǪöä ȸ3 ÀȚÀöä Ȑ8ǽ ȷäɀĒΣä ǴöÀǵ | | | |
|---|---|---|---|
| Àö ʔòɀţä ǴƨÀȞţä | ȸŋ ȳÀÀǚ 10 ǥÀǪɀ òŸǹ (ǚ) ǥÆȽÀÎţä | ôÀȞǪöä ÆÀ3 | ôÀȞǪöä ǴȞĒǴù |
| ŏɄì ғ | ǴĒɄò | ÆĈõ | ÆDZɀǨ ғ ȸÒö âÀǪ ÛÀìÀǤŋ Ƙď âÀǪ ğÀɀǚ âÀǪ ÆDZɀÀ ғ |
| Ɀ ęşǚ ÛǴĒŌŸǪöÀǽ ŏÆǴöä ǁȞĒȞò ɄŌǽ äǽǚ ǴƨÀȞţä (ǯüǚ) ȳÀÀǚ 5 ǥÆŋ | ǴĒɄò | ¢ǫǚ ʔŸ3 ¢ǤǪÎŋ (ǚ (ā) ÆĈõ | şǚ êşÆǹ ÛÆŸƨä ĘȞö ğÀȒ3 ÛğÀDZɄÊǨ ĘùÀÀŋ ɄÛ8Ǩ) ǥƘ8ò ţǾƨäş ƙ3äøǾöä ȸŋ (ƙęÀÊöäş |
| ȷÀõ äǽǚ ÛǴĒŌŸǪöÀǽ ŏÆǴöä ĘǴù ǁĒǽÀƶǚ ÒĒÅÎǪöä ŌŋÀȮöä ǴĒŌŸǪöä òşÆDZ dzÀŌŸöäş ŌÔţä ŏÀÛ3ǚ ɄŌǽ äǽǚ ǴƨÀȞţä Ɀ ęşǚ 5 ÆȞǽ ǁȞĒȞò ȷäɀĒΣä (ǯ üǚ) ȳÀÀǚ | ÆĈõ | şǚ ɃÀǽ ȷäɀĒǵ (ā ¢Ȟȓş ȸȮƩ ғ ȷäɀĒǵ ǴǤęäÀţä ǨƠ ȸDZäǻ şǚ ɃÀǽ ȷäɀĒǵ (ā) ¢ǤǪÎÀ ȷäɀĒǵ ÆĈõ ȷäɀĒǵ şǚ (å) ÆĈõ ¢ǫüǽ ǨƠ ¢Ȟȓş ȸȮƩ ғ ǴǤęäÀţä | ŌÔţäş ğÀĒùÀÅţä ĘȞö ğÀȒ3) ǥƘÛǹ ǴȒ3 ʔŸ3 ğÀȒ3 şǚ ǥåÆȞǪŋ âÜÀöä şǚ ¢DZɀöä ǴǤęÀöäş 3äÀòǰäş |

·ÙǾɀ ÙÛǾöäş āŸȮöä ʔŸ3 ǴǤęäÀţä ǥÀǪɀ ĘǴÛǨ (ǚ)
ÒɄÀöÀǽ ǴĒǴŸè ÀŒǚ ǨǤǯÀ ɃÀŋ ǴȚǤǪÎŋ ÀŒǚ ʔŸ3 ǴǫɀùɀţäĘùÀÀţä Ž ǴȓÀǂä Ƙď ğÀȒȞöä Ōõ ǮǪȞǨ ȷǚ Æƶ (ā)
·(ɄďÀŋÆöä ĘöüǪţä ÆȒöä øÀǤǪǹä) ɃǮǪÅţä
·ĘöüǪţä ÆȒöÀǽ ÒɄÀöÀǽ ǁĒǴŸè ¢ďÀŋå ÆDZş äǽǚ şǚ (ǯ)
·ÆǁȮŸö ǥåÀȒŋ ǴĒ3ɀǫ ǴƨÀȞŋ ÆŸÛǪÀ Àŋ ǁøåÀǫ Æǫäøǰä şǚ ôøäɀŌŸö ôÀȞǪöä (å)

[illegible] 1.500.000 – 500.000 [illegible]

[illegible] Vero [illegible] .(Sureau, 1988; Larghi, 1991; Fishbein and Robinson, 1993) [illegible] 784.026 [illegible] 1992 [illegible] 1.000 [illegible] 240 [illegible] .encephalitogenic [illegible]

[illegible] SMB [illegible] (6 [illegible] 0 [illegible] 24 [illegible]) [illegible] 7 [illegible] 60 [illegible] 20 [illegible] 10 [illegible] 24 [illegible] 14 [illegible] .(Guarnera *et al.*, 1994) [illegible] immunogenicity [illegible] .(WHO, 1992)

[illegible] .30، 14، 7، 3، 0 [illegible] 1 – 1 – 2 [illegible] .21 [illegible] 7 [illegible]

[illegible] .lyophilized [illegible] .(Lin, 1990) [illegible]

[illegible] heterologous [illegible] IU 40 [illegible] .homologous [illegible] IU 20 [illegible] 90، 20، 10 [illegible]

[illegible] .(°22 [illegible]) Fermi

[illegible]

[illegible] %25 [illegible] %15 [illegible]

[illegible] 34 [illegible] 1.2 [illegible] 10.000 [illegible] 1980 [illegible] 1970 [illegible] SMB [illegible] 3 [illegible] 13 [illegible] 141 [illegible] (Acha, 1981) [illegible] 11 [illegible] HDCV [illegible] (Boe and Nyland, 1980) [illegible] (Bernard *et al.*, 1982) [illegible]

[illegible] enzootic [illegible] 10 [illegible] *Escherichia coli* [illegible] (GP) [illegible] (Yelverton *et al.*, 1983) [illegible]

microcarrrier ɃȀȽf Ȱŋȧǵ ȀŧƯ Ž ǥȀŧϘȆŋ ǦΛζŸǹ ȓζȖǹ ţǿȁ ȸŋ ɟȼä ǦΛζɆΣä ǦφȦȪϘöä ·ȀȒΛǕ ǦȦŸȮϘöä ǦŸɆŸęş ȃşƘȦöä ȸŋ ǥƘǤȭ ǦɆŧȭ Ȁζζʌ Ǽę ɃǾöäş Ȗfermenter

# ǕøɰƐþøǅǁƐ


Acha, P.N. Epidemiología de la rabia bovina paralítica y de la rabia del murciélago. *In: Primer seminario internacional sobre rabia en las Américas.* Washington, D.C.: Pan American Health Organization; 1968. (Scientific Publication 169.)

Acha, P.N. A review of rabies prevention and control in the Americas, 1970–1980. Overall status of rabies. *Bull Off Int Epiz* 93:9–52, 1981.

Acha, P.N., P.V. Arambulo III. Rabies in the tropics—history and current status. *In:* Kuwert, E., C. Merieux, H. Koprowski, K. Bögel, eds. *Rabies in the Tropics.* Berlin: Springer-Verlag; 1985.

Aguilar-Setien, A., Y.C. Leon, E.C. Tesoro, R. Kretschmer, B. Brochier, P.P. Pastoret. Vaccination of vampire bats using recombinant vaccinia-rabies virus. *J Wildl Dis* 38(3):539–544, 2002.

Andrewes, C.H., J.R. Walton. Viral and bacterial zoonoses. *In:* Brander, G.C., P.R. Ellis, eds. *The Control of Disease.* London: Baillière Tindall; 1977. (Animal and Human Health Series.)

Atanasiu, P. Étude sur les voies d'élimination du virus rabique. *In: International Symposium on Rabies (II), Lyon, 1972.* Basel: Karger; 1974.

Baer, G.M. Rabies: Mode of infection and pathogenesis. *In: International Symposium on Rabies (II), Lyon, 1972.* Basel: Karger; 1974.

Baer, G.M., ed. *The Natural History of Rabies,* 2nd ed. Boca Raton: CRC Press; 1991.

Baer, G.M. Pathogenesis and pathology. Overview. *In:* Baer, G.M., ed. *The Natural History of Rabies,* 2nd ed. Boca Raton: CRC Press; 1991.

Baer, G.M., M.K. Abelseth, J.G. Debbie. Oral vaccination of foxes against rabies. *Am J Epidemiol* 93:487–490, 1971.

Barrat, J., H. Bourhy, J.H. Cox. Diagnosis of rabies and typing strains of rabies virus. *Rev Sci Tech Off Int Epiz* 8:909–910, 1989.

Bell, J.F., G.J. Moore, G.H. Raymond. Protracted survival of rabies-infected insectivorous bat after infective bite. *Am J Trop Med Hyg* 18:61–66, 1969.

Beran, G.W. Rabies and infections by rabies-related viruses. *In:* Beran, G.W., section ed. Section B, Vol. 2: *CRC Handbook Series in Zoonoses,* Boca Raton: CRC Press; 1981.

Beran, G.W. Urban rabies. *In:* Baer, G.M., ed. *The Natural History of Rabies,* 2nd ed. Boca Raton: CRC Press; 1991.

Bernard, K.W., D.B. Fishbein. Rabies virus. *In:* Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases,* 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Bernard, K.W., P.W. Smith, F.J. Kader, M.J. Merand. Neuroparalytic illness and human diploid cell rabies vaccine. *JAMA* 248:3136–3138, 1982.

Bernard, K.W., D.B. Fishbein, K.D. Miller, *et al.* Pre-exposure rabies immunization with human diploid cell vaccine: decreased antibody responses in persons immunized in developing countries. *Am J Trop Med Hyg* 34:633–647, 1985.

Bigler, W.J., G.L. Hoff, J.S. Smith, R.G. McLean, H.A. Trevino, J. Ingwersen. Persistence of rabies antibody in free-ranging raccoons. *J Infect Dis* 148:610, 1983.

Boe, E., H. Nyland. Guillain-Barré syndrome after vaccination with human diploid cell rabies vaccine. *Scand J Infect Dis* 12:231–232, 1980.

Bogel, K., H. Moegle, F. Steck, W. Krocza, L. Andral. Assessment of fox control in areas of wildlife rabies. *Bull World Health Organ* 59:269–279, 1981.

Bourhy, H., B. Kissi, M. Lafon, D. Sacramento, N. Tordo. Antigenic and molecular char-

acterization of bat rabies in Europe. *J Clin Microbiol* 30:2419–2426, 1992.

Budzko, D.B., L.J. Charamella, D. Jelinek, G.R. Anderson. Rapid test for detection of rabies antibodies in human serum. *J Clin Microbiol* 17:481–484, 1983.

Burns, R.J., R.W. Bullard. Diphacinone residue from whole bodies of vampire bates: A laboratory study. *Bull Pan Am Health Organ* 13(4):365–369, 1979.

Carey, A.B., R.H. Giles, R.G. McLean. The landscape epidemiology of rabies in Virginia. *Am J Trop Med Hyg* 27:573–580, 1978.

Chomel, B.B. The modern epidemiological aspects of rabies in the world. *Comp Immunol Microbiol Infect Dis* 16:11–20, 1993.

Constantine, D.G. Bat rabies: Current knowledge and future research. *In:* Nagano, Y., F.M. Davenport, eds. *Rabies. Proceedings of the Working Conference on Rabies, Tokyo, 1970.* Baltimore: University Park Press; 1971.

Crick, J. Rabies. *In:* Gibbs, E.P.J., ed. Vol 2: *Virus Diseases of Food Animals: A World Geography of Epidemiology and Control.* London: Academic Press; 1981.

Dean, D.J., M.K. Abelseth. Fluorescent antibody test. *In:* Kaplan, M.M., H. Koprowski, eds. *Laboratory Techniques in Rabies.* 3rd ed. Geneva: World Health Organization; 1976. (Monograph Series 23.)

Debbie, J.G. Rabies. *Progr Med Virol* 18:241–256, 1974.

Delpietro, H., A.M. de Díaz, E. Fuenzalida, J.F. Bell. Determinación de la tasa de ataque de rabia en murciélagos. *Bol Of Sanit Panam* 73:222–230, 1972.

de Díaz, A.M. Rabies neutralizing antibodies determination by the modified counterimmunoelectrophoresis test and the rapid fluorescent focus inhibition test. *Zentralbl Bakteriol Mikrobiol Hyg [A]* 256:1–6, 1983.

de Díaz, A.M., V.M. Varela-Díaz. Persistence and variation of Mangosta street rabies virus antigens during adaptation into mice. *Zentralbl Bakteriol Mikrobiol Hyg [B]* 171:73–78, 1980.

de Díaz, A.M., E. Fuenzalida, J.F. Bell. Non-fatal rabies in dogs and cats. *Ann Microbiol* (Paris) 126:503–509, 1975.

de Díaz, A.M., G. González Resigno, A. Fernández Munilla, O.P. Larghi, N. Marchevsky, J.C. Arrossi. Vacuna antirrábica de cerebro de ratón lactante. Esquemas reducidos de inmunización posexposición. *Rev Argent Microbiol* 11:42–44, 1979.

de Díaz, A.M., S. Papo, A. Rodriguez, J.S. Smith. Antigenic analysis of rabies-virus isolates from Latin America and the Caribbean. *Zentralbl Veterinarmed [B]* 41:153–160, 1994.

Diesch, S.L., S.L. Hendricks, R.W. Currier. The role of cats in human rabies exposures. *J Am Vet Med Assoc* 181:1510–1512, 1982.

Dreesen, D.W., J.W. Sumner, J. Brown, D.T. Kemp. Intradermal use of human diploid cell vaccine for preexposure rabies immunizations. *J Am Vet Med Assoc* 181:1519–1523, 1982.

Durán, J.C., M. Favi. Rabia en zorro gris (*Pseudalopex griseus*) patagónico. Magallanes, Chile. *Avances Cienc Vet* 4:146–152, 1989.

Escobar Cifuentes, E. Program for the elimination of urban rabies in Latin America. *Rev Infect Dis* 10(Suppl 4):S689–S692, 1988.

Everard, C.O., D. Murray, P.K. Gilbert. Rabies in Grenada. *Trans R Soc Trop Med Hyg* 66:878–888, 1972.

Everard, C.O., G.M. Baer, M.E. Alls, S.A. Moore. Rabies serum neutralizing antibody in mongooses from Grenada. *Trans R Trop Med Hyg* 75:654–666, 1981.

Fekadu, M. Asymptomatic non-fatal canine rabies. *Lancet* 1:569, 1975.

Fekadu, M. Latency and aborted rabies. *In:* Baer, G.M., ed. *The Natural History of Rabies*, 2nd ed. Boca Raton: CRC Press; 1991.

Fekadu, M., J.H. Shaddock. Peripheral distribution of virus in dogs inoculated with two rabies virus strains. *Am J Vet Res* 45:724–729, 1984.

Fekadu, M., J.H. Shaddock, G.M. Baer. Intermittent excretion of rabies virus in the saliva of a dog two and six months after it had recovered from experimental rabies. *Am J Trop Med Hyg* 30:1113–1115, 1981.

Fekadu, M., J.H. Shaddock, G.M. Baer. Excretion of rabies virus in the saliva of dogs. *J*

*Infect Dis* 145:715–719, 1982.

Fekadu, M., J.H. Shaddock, F.W. Chandler, G.M. Baer. Rabies virus in the tonsils of a carrier dog. *Arch Virol* 78:37–47, 1983.

Fernandez, M.V., P.V. Arambulo III. Rabies as an international problem. *In:* Koprowski, H., S.A. Plotkin, eds. Vol. 3: *World's Debt to Pasteur: Proceedings of a Centennial Symposium Commemorating the First Rabies Vaccination, Held at the Children's Hospital of Philadelphia, January 17–18, 1985*. New York: A.R. Liss; 1985.

Fishbein, D.B., L.E. Robinson. Rabies. *N Engl J Med* 329:1632–1638, 1993.

Fishbein, D.B., A.J. Belotto, R.E. Pacer, *et al.* Rabies in rodents and lagomorphs in the United States, 1971–1984: Increased cases in the woodchuck (*Marmota monax*) in mid-Atlantic states. *J Wildl Dis* 22:151–155, 1986.

Flores Crespo, R., S. Said Fernandez, D. de Anda López, F. Ibarra Velarde, R.M. Anaya. Nueva técnica para el combate de los vampiros: warfarina por vía intramuscular al ganado bovino. *Bol Of Sanit Panam* 87:283–299, 1979.

Foggin, C.M. Mokola virus infection in cats and a dog in Zimbabwe. *Vet Rec* 113:115, 1983.

Fuenzalida, E. Human pre-exposure rabies immunization with suckling mouse brain vaccine. *Bull World Health Organ* 46:561–563, 1972.

Guarnera, E.A., E. Álvarez Peralta, J.J. Velázquez, J.S. Sempértegui, eds. *Guía para el tratamiento de la rabia en el hombre*. Buenos Aires: Instituto Panamericano de Protección de Alimentos y Zoonosis; 1994. (Technical Publication 2.)

Hanlon, C.A., M. Niezgoda, P. Morrill, C.E. Rupprecht. Oral efficacy of an attenuated rabies virus vaccine in skunks and raccoons. *J Wildl Dis* 38(2):420–427, 2002a.

Hanlon, C.A., M. Niezgoda, C.E. Rupprecht. Postexposure prophylaxis for prevention of rabies in dogs. *Am J Vet Res* 63(8):1096–1100, 2002b.

Held, J.R., E. Fuenzalida, H. López Adaros, J.C. Arrossi, N.O. Poles, A. Scivetti. Inmunización humana con vacuna antirrábica de cerebro de ratón lactante. *Bol Of Sanit Panam* 72:565–575, 1972.

Helmick, C.G. The epidemiology of human rabies postexposure prophylaxis, 1980–1981. *JAMA* 250:1990–1996, 1983.

Hubbard, H.B. Rabies immunity in vaccinated cattle. *Proc Annu Meet US Anim Health Assoc* 73:307–322, 1969.

Johnson, R.T. The pathogenesis of experimental rabies. *In:* Nagano, Y., F.M. Davenport, eds. *Rabies, Proceedings of the Working Conference on Rabies, Tokyo*, 1970. Baltimore: University Park Press; 1971.

Koprowski, H. Mouse inoculation test. *In:* Kaplan, M.M., H. Koprowski, eds. *Laboratory Techniques in Rabies*, 3rd ed. Geneva: World Health Organization; 1976. (Monograph Series 23.)

Koprowski, H. Rabies. *In:* Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

Krebs, J.W., T.W. Strine, J.E. Childs. Rabies surveillance in the United States during 1992. *J Am Vet Med Assoc* 203:1718–1731, 1993.

Larghi, O.P. Familia Rhabdoviridae. *In:* Carballal, G., J.R. Oubiña, eds. *Virología médica*. Buenos Aires: El Ateneo; 1991.

Larghi, O.P., E. Jimenez. Methods for accelerating the fluorescent antibody test for rabies diagnosis. *Appl Microbiol* 21:611–613, 1971.

Larghi, O.P., E. Gonzalez, J.R. Held. Evaluation of the corneal test as a laboratory method for rabies diagnosis. *Appl Microbiol* 25:187–189, 1973.

Larghi, O.P., V.L. Savy, A.E. Nebel, A. Rodríguez. Vacuna antirrábica inactivada con etilenimina. Duración de inmunidad en perros. *Rev Argent Microbiol* 11:102–107, 1979.

Lecocq, J.P., M.P. Kieny, Y. Lemoine, *et al.* New rabies vaccines: Recombinant DNA approaches. *In:* Koprowski, H., S.A. Plotkin, eds. Vol. 3: *World's Debt to Pasteur: Proceed-*

*ings of a Centennial Symposium Commemorating the First Rabies Vaccination, Held at the Children's Hospital of Philadelphia, January 17–18, 1985.* New York: A.R. Liss; 1985.

Lewis, V.J., W.L. Thacker. Limitations of deteriorated tissue for rabies diagnosis. *Health Lab Sci* 11:8–12, 1974.

Lin, F.T. The protective effect of the large-scale use of PHKC rabies vaccine in humans in China. *Bull World Health Organ* 68:449–454, 1990.

López, A., P. Miranda, E. Tejada, D.B. Fishbein. Outbreak of human rabies in the Peruvian jungle. *Lancet* 339:408–411, 1992.

Lord, R.D., E. Fuenzalida, H. Delpietro, O.P. Larghi, A.M. de Díaz, L. Lázaro. Observations on the epizootiology of vampire bat rabies. *Bull Pan Am Health Organ* 9:189–195, 1975.

Málaga Alba, A. Rabia bovina transmitida por vampiros. *In: Memorias del Primer Seminario Internacional y Tercer Seminario Nacional de Rabia.* Cali, Colombia: Ministry of Public Health; 1974.

Mayr, A., H. Kraft, O. Jaeger, H. Haacke. Orale Immunisierung von Fuchsen gegen Tollwut. *Zentralbl Veterinarmed [B]* 19:615–625, 1972.

Mertz, G.J., K.E. Nelson, V. Vithayasai, *et al.* Antibody responses to human diploid cell vaccine for rabies with and without human rabies immunoglobulin. *J Infect Dis* 145:720–727, 1982.

Meslin, F.X. Experience gained in canine rabies control programme planning and implementation. Rabies Control in Asian Countries. Samarkand, 19–21 September, 1989.

Meyer, H.M., Jr. Rabies vaccine. *J Infect Dis* 142:287–289, 1980.

Nagano, Y., F.M. Davenport, eds. *Rabies, Proceedings of the Working Conference on Rabies, Tokyo, 1970.* Baltimore: University Park Press; 1971.

Nehaul, B.B. Rabies transmitted by bats in British Guiana. *Am J Trop Med Hyg* 4:550–553, 1955.

Nicholson, K.G., H. Prestage. Enzyme-linked immunosorbent assay: A rapid reproducible test for the measurement of rabies antibody. *J Med Virol* 9:43–49, 1982.

Oelofsen, M.J., M.S. Smith. Rabies and bats in a rabies-endemic area of southern Africa: Application of two commercial test kits for antigen and antibody detection. *Onderstepoort J Vet Res* 60:257–260, 1993.

Pan American Health Organization (PAHO). *Informe de la vigilancia epidemiológica de la rabia en las Américas, 1991–1992, VIII Reunión Interamericana de Salud Animal a Nivel Ministerial (RIMSA), 1993.* Washington, D.C.: PAHO; 1993. (RIMSA 8/18.)

Pan American Health Organization (PAHO), Pan American Zoonoses Center. *Encuesta sobre laboratorios productores de vacunas antirrábicas en América Latina y el Caribe. Año 1980.* Buenos Aires: Pan American Zoonoses Center; 1980.

Plotkin, S.A. Rabies vaccine prepared in human cell cultures: Progress and perspectives. *Rev Infect Dis* 2:433–448, 1980.

Rausch, R. Observations on some natural-focal zoonoses in Alaska. *Arch Environ Health* 25:246–252, 1972.

Rupprecht, C.E., B. Dietzschold, W.H. Wunner, H. Koprowski. Antigenic relationships of Lyssaviruses. *In:* Baer, G.M., ed. *The Natural History of Rabies,* 2nd ed. Boca Raton: CRC Press; 1991.

Schneider, L.G., U. Schoop. Rabies-like viruses. *In: International Symposium on Rabies (II), Lyon, 1972.* Basel: Karger; 1974.

Schoop, U. *Praomys (Mastomys) natalensis:* An African mouse capable of sustaining persistent asymptomatic rabies infection. *Ann Microbiol (Paris)* 128:289–296, 1977.

Shope, R.E. Rabies. In: Evans, A. S., ed. *Viral Infections of Humans: Epidemiology and Control.* New York: Plenum; 1976.

Sikes, R.K. Rabies. *In:* Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals.* Ames: Iowa State University Press; 1970.

Sikes, R.K. Rabies. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man,* 6th ed. Springfield: Thomas; 1975.

Smith, J.S. Rabies virus epitopic variation: Use in ecologic studies. *Adv Virus Res* 36:215–253, 1989.

Steck, F. Epizootiology of rabies. *In: International Symposium on Rabies (II), Lyon, 1972.* Basel: Karger; 1974.

Sureau, P. Acquisitions nouvelles sur le diagnostic, l'epidémiologie et la prophylaxie de la rage. *Arch Inst Pasteur Madagascar* 54:41–55, 1988.

Sureau, P., P. Rollin, T.J. Wiktor. Epidemiologic analysis of antigenic variations of street rabies virus: Detection by monoclonal antibodies. *Am J Epidemiol* 117:605–609, 1983.

Systemic allergic reactions following immunization with human diploid cell rabies vaccine. *MMWR Morb Mortal Wkly Rep* 13;33:185–187, 1984.

Szyfres, L., J.C. Arrossi, N. Marchevsky. Rabia urbana: el problema de las lesiones por mordeduras de perro. *Bol Of Sanit Panam* 92:310–327, 1982.

Thompson, R.D., C.G. Mitchell, R.J. Burns. Vampire bat control by systemic treatment of livestock with an anticoagulant. *Science* 177:806–808, 1972.

Tierkel, E.S. Rapid microscopic examination for Negri bodies and preparation of specimens for biological tests. *In:* Kaplan, M.M., H. Koprowski, eds. *Laboratory Techniques in Rabies*, 3rd ed. Geneva: World Health Organization; 1976. (Monograph Series 23.)

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals: With Reference to Etiology, Epizootiology, Pathogenesis, Immunity, Diagnosis, and Antimicrobial Susceptibility*, 8th ed. Ithaca: Comstock; 1988.

Turner, G.S., K.G. Nicholson, D.A. Tyrrell, F.Y. Aoki. Evaluation of a human diploid cell strain rabies vaccine: Final report of a three year study of pre-exposure immunization. *J Hyg* (London) 89:101–110, 1982.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Changes in rabies control. *CDC Vet Public Health Notes*, February 1975.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Epidemiologic notes and reports: systemic allergic reactions following immunization with human diploid cell rabies vaccine. *MMWR Morb Mortal Wkly Rep* 33(14):185–187, 1984.

Visser, G. Veterinaire Hoofdinspectie van de Volksgezondheid. Rabies bij vleermuizen. [The Veterinary Chief Inspection of Public Health. Rabies in bats]. *Tijdschrift Voor Diergeneeskunde* 115:752–753, 1990.

Whetstone, C.A., T.O. Bunn, R.W. Emmons, T.J. Wiktor. Use of monoclonal antibodies to confirm vaccine-induced rabies in ten dogs, two cats and one fox. *J Am Vet Med Assoc* 185:285–288, 1984.

Wiktor, T.J., S.A. Plotkin, H. Koprowski. Development and clinical trials of the new human rabies vaccine of tissue culture (human diploid cell) origin. *Dev Biol Stand* 40:3–9, 1978.

Wiktor, T.J., A. Flamand, H. Koprowaki. Use of monoclonal antibodies in diagnosis of rabies virus infection and differentiation of rabies and rabies related viruses. *J Virol Meth* 1:33–46, 1980.

Winkler, W.G. Rodent rabies. *In:* Baer, G.M., ed. *The Natural History of Rabies*, 2nd ed. Boca Raton: CRC Press; 1991.

Winkler, W.G., E.F. Baker, C.C. Hopkins. An outbreak of nonbite transmitted rabies in a laboratory animal colony. *Am J Epidemiol* 95:267–277, 1972.

Winkler, W.G., J.H. Shaddock, L.W. Williams. Oral rabies vaccine: Evaluation of its infectivity in three species of rodents. *Am J Epidemiol* 104:294–298, 1976.

World Health Organization (WHO). *Rabies in the Tropics: Proceedings of an International Conference on Rabies Control in the Tropics, Tunis, 1983.* Berlin: Springer-Verlag; 1985.

World Health Organization (WHO). WHO Expert Committee on Rabies. Seventh Report. Geneva: WHO; 1984. (Technical Report Series 709.)

World Health Organization (WHO). WHO Expert Committee on Rabies. Eighth Report. Geneva: WHO, 1992. (Technical Report Series 824.)

World Health Organization (WHO). Rabies. Oral immunization of foxes. *Wkly Epidemiol Rec* 69:40–42, 1994.
Wunner, W.H. Molecular basis of antigenic differences among rabies viruses. *Rev Sci Tech Off Int Epiz* 8:933, 1989.
Yelverton, E., S. Norton, J.F. Obijeski, D.V. Goeddel. Rabies virus glycoprotein analogs: Biosynthesis in *Escherichia coli*. *Science* 219:614–620, 1983.

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## RIFT VALLEY FEVER [illegible]

### ICD-10 A92.4

[illegible] Enzootic hepatitis.

[illegible] Bunyaviridae [illegible] *Phlebovirus* [illegible] 90 – 100 [illegible] nucleocapsids [illegible] symmetry.

[illegible]

[illegible] 1931 [illegible] 100.000 [illegible] 1950 – 1951 [illegible] episode [illegible] 20.000 [illegible] 1953 [illegible] 1956 [illegible] 1969. [illegible] 1974 – 1976 [illegible] 4 [illegible] 8 [illegible] (Shimshony and Barzilai, 1983).

1977

200.000 20.000

400 600

%25 %1 %3

.(Brés, 1981)

livestock

(%19.3) (%56.6) (%35.7)

Hoogstraal *et al.*,) (%31.4)

:1978 (1979

%12.1 %18.8 %28

.(Malik, 1981) %20.4 %17.5 %20

1987

337

ğäÀÒÊȞŋ БǗ ÀÎǪǢäş òÀ8ÀÊöä ÀŒ Ž ɀèşǿ ǦÀÀŋ Ʉģäɀȑ Ž ôÀţä ÀȚş ·ÝǨÀę ÀȚÀŋ 49 ȷǗ åÆƠ ÆÕö ·ğÀǢäɀƩΣä Ž ôÀţä Ȝŋ ǦÀÀÎǦöä ğɟÀΣä ǨÕɀäÀǨ ·ɟÀɷ Ƚõ 88 ÆȞä ɁÝȜ şÆǦöä ğÀȚşǗ ·ȻöÀǪǗ şǗ ȽȚȑÀŋ ŌǦę ğÀȑÀȚǱǗ ȸŋ ǨǢÀȜ ÀŒǗş ÛğÀǢäɀƩģ ȽȚÀÆö ɁȑÀţä ȽŢȞŋ %65 ȷǗ ÀƩǢÀǪÀǿɀŋ ȧÀȉ āɀÀǱ Ž ȳÀǭɉäş ÂȜÀţä ȸŋ ÅèǗǿ 173 ɁÝȜ ǦƩǱɀöşƘè ğäǿÀǦǪǹä ǨǪǦǪǗ ·ÅȒÀǗ M ȷÀɉä åäÆȑǗ 64 ɁÆö ȷÀõ ȻǾȽ ȸŋş ÛG ȷÀɉä åäÆȑǗ ÀȚÀÆö ğÀǢäɀƩΣä ȸŋ ÆÊģş ·(WHO, 1988) livestock ɄȉäɀţäŽ ǦȜÀÆģ ǦƩȉÀɀ õÀÀȽ ȷǗ ğäåɀǱɀţä ȻǾȽ ǦöÀģ 1.264 õÀÀȽ ·ÀƩǢÀǪÀǿɀŋ Ž ǦƩɘÀäş ğÀèäǿå ɁÀǱǗ ȸǾöä ǿÀõäå Ž ǿɀǪèÀä ÆȚȞŋ ğäÀÀÆÕǨ Walsh,) ÀƩÕÀÀɀǗ āÀǭ Ž ǫÆƠ ɄǿǪöä Бşɉä ǦƩȉÀÀöä ɄȽ ȻǾȽ ǨǢÀõ ·ģÀɀş 224ş ǦÀÀÎä .(1988

Ž ğÀǢäɀƩΣäş ȷÀÊǢqä Ž ǿɀȚŢÝö ôÀţä åÀȜ ÛöşÆȚä ȸŋ ǦÀè 12 ÆȞäş Û1993 ȳÀȜ Ž Ž ɁşÆȞÝö ÀǨäɀǪŋ Ƙǭ ÀǹǗǪŋ ôÀȜ ɀȽş ÛɄǿÀƩȜ ôÀŋ ȸȜ ŊÝäǗ ÛǦÀÀÔţä ȷäɀèǗ Ž ÛğɟÀΣä ȸŋ ÆÀÆȞöä Ž ǦƩöÀȜ ğäǿÀƩȜ Ȝŋ ÛǦƩȜɀÀöä M ȷÀɉä åäÆȑǗ ǨÀÎǪõä ·ÅȒÀÀŋ 41 ǨÀÎõş ÛģƘǰõ ğÀȑÀȚǱǗ ǨǪÆȞɀ ·ğÀǢäɀƩΣä Ž ÀŋǗ ·ȽȚÔȞɀ Ź ÅȒÀÀŋ 35 ȸŋ 27 ȷǗ ǿÆę ÛǦƩǱɀöşƘè ğÀģɀÊŋ ɁÝȜ ÅåÀɫǪȜäş ÛâɀŋÀǱ ƘÀǱ ȸŋ âşƘÀöä åÀÀǪèäş ÛåäÆȑǗ ǨǪÆģ ǬƩģ ÛÕƩÀöä ÀǪöå Ž ÅȒÀǗ ôÀţä ÀÎǪä ·ȷäɀèǗ Ž ǦÀÀÎä ɁşÆȜ 6.000 õÀÀȽ ǦƩģÀÀöä ȸŋ ƘƩäÀƶǗ ğÀǢäɀƩΣä Ȝŋ âÀǪ ɁÝȜ ȷÀÔÁȉ ȷÀõş ÛȳÀǭɉä ȸŋ ȜƩÛę Ž ğÀȑÀȚǱǗ ȷÀõ ·ĘùÀÀŋ ģÆȜ Ž ȷÀÊǢqäş ğÀǢäɀƩΣä ȸŋ Ōõ Ž ǦƩÆȜ ğŸÒÎŋ ȸȜ ŊÝäǗ ·ǦƩǱɀöşƘÊöä ȽȚÔȞɀ Ź ÀŋÆÀȜ M ȷÀǪõ åäÆȑǗ ǦÀÝǪƯ ĘùÀÀŋ ȸŋ ǸÝÊŋ Ž ŌŋÀȜ 500 ȸŋ 24 ɁÆö .(WHO, 1994)

ȳÀǭɉä Ž âşƘÀÝö òÀȞɀ òÀÕǪǢä õÀÀȽ ȷÀõ ·ÀƩÕÀÀɀǗ āÀǭ Ž ÆòÀǪöä ÀÀǿÀÕǨ ÆÊģş Ž ǦÀùɀǪŋ ɁşÆȞöÀɀ ÀƩÕÀÀɀǗ ȧÀȉş āɀÀǱ Ž ÀŋǗ ·ȝÀȞöä ŌģÀè Ž 1991 – 1989 òŸǹ ÛБɀäÀǦɕäş ÀƩǦŋäà Ž 1993 ȳÀȜ ğÀƩȉÀɀ ǨǪÆģ ·Бɀä ÀǦɕäş ÀƩǢäÀǿÀǨş Бşɟ ÀŋşÀƩÆõ ·1998 ȳÀȜ òÀŋɀÔöäş ÀƩǢÀǪÀǿɀŋş ÀƩÆõ Ž ğÀƩȉÀɀ ǨǪÆģş

ğɟÀģ ǒÀÀȜǪèÀä) 2000 ȳÀȜ ÀƩÕÀÀɀǗ ȝǿÀǹ ģÀŋ òşɉ ţåÀÔöä ɁƥȸŋğɟÀģ ȸȜ ŊÝäǗ ǦƩäÀȞöä ǦÒÝɫţä ȸŋ Ōõ Ž Õöæş Û(âşƘÀöä Ȝŋ ȷɀÝŋÀȞǪÀ ȸÀǾöä ğäȜǪÁţä Ž ƘÝŋÀȞöä Ƙä

ĞQĞʒŋ ĞöÅğ 882 ȸʒ ĞÅáȥȞÊöä ĞĦÔöä ğøâàş ǨĀŸʒǗ Û2001 ŐÅÅǽǗ ȖÅȥ ·ȸȶĿöäş ĞÅáȥȞÊöä ȸȶĿöä ǨȥÅȞǪèä ·(Balkhy and Memish, 2003) ğÅȥş 124 ʒŋ ţåÅÔöä ɁƥɁ ȸŋ ĞŐǪȥŋ – ÅȒÅÅŋ 490 øöä ƙä ȸŋş ·ğÅȥş ĞöÅğ (%11) 121 ÅȚĿȥ Åŋ ĞȚĞǪÎŋ ĞöÅĦõ ÅȒÅÅŋ 1.087 ţåÅÔöä ɁȶΣ M ǰÅǬǒ åäÆȓǗ (%26) 136 ɁÆö ǰÅõ ÅĐǲȥôşǨè äȥÔĦȥ ȸÅØöä ĞöÅΣä ·(CDC, 2000) ȥĿÅǹ ŎȮÎä ȖŸʒÅÅǨ øÅĞǪǹä (%3) 17ş

ǰäÆŸĞöä Ž ȥôş ÅȶĞÊğ ĞŸĿŸę ğÅÅʒÅȒŋ ʒŋ ğåÅʒ ȥĿÅǹ ôÅţä ·ǰÅÊφǭä Ž ôÅţä ƁǗş ÆÅÆì ţäÆôş ɁƥɁ ȸŋ ɁȓÅţä ȖøφÅȞÅ ·ȳÅÅǗ 6 – 4 ĞφÅȒΣä øşå ·ɁøÅĦÔöÅä ĞÛĿǂä ·ĞÅÛÅöä ȯÆĞǨş ŏÅĞęǗş ǰÆǯɖş ōÅŒǗş øäşå ȸŋ ÅȒÅǗş ÛöȥȒöä āÅȽóş ȖŸÔÅŋ ƁǗş ȖŸȒʒ ğåÅʒ ȳÅǨ ŏÅÅÎöä ·ÅĞÅÅÖǨ âåÅÊöä ȳȥĿöä Ž ɁȶΣä åȥȞǨ ǰǗ ȸȮȣ ȸȮö ÛĞŸĿŸę ÅŋÅÅǗ ôÅţä ȳşÆÅ ŏÅäş Ž ·ğäȥÅèş ÅȚìǗ ȳşÆǨ Æę ȖøǪöä ĞĿȮĞÎöä ɁŸʒ ğÅȥüä ƙäÅÔţä ɁȓÅţä ȒĦä Ž ȓǗ ŌȮì ȸŋ 4 ğÅŋş ÛȟÅŋÆöä āÅȚǪöä ȸŋ ÅȒÅÅŋ 12 ɁøφÅʒ ·ÅĿŐÅÅȥǗ āȥÅǲ Ž 1976 – 1974 · ôÅţä ȸŋ ŽÂøφ

ĞÅÅÅÊöä ȯÅȮìǰä ÆĿüȥǨ ƂǗ ÅÔŋ Ž ŏÅäȥöä ȯŸǹ ôÅţä ɁŸʒ ǨÅÅǲǗ Ğèäøå ğåǗ ʒŋ ĞĿȥÂøÅöä ţåÅÔöä ɁƥɁ ÜÅʒȥĿì Åǯõǰä ȖȽş ÛğÅÅʒÅȒŋ ǰşå ţåÅÔöä ɁƥɁ ·ĞĿöÅǪöä ·(Meegan *et al*., 1981) ĞĿÆʒ ğÅÅʒÅȒŋ ʒŋ ţåÅÔöä Ɂƥş ÜȟÅŋÆöäş ÅÅÅĦÊöä āÅȚǪöä

ĞȞäøǗ ƂǗ ƙŋȥĿö ɁƥɁ ȸŋ ɁȓÅţä ȖøφÅȞÅ ·ğÅȥȥŸö ȖÊĿàÅöä ÆĞÊöä ȖȽ ĞĿȥÂøÅöä ĞŋäŸǪţä ğÅȥǗş ŽÂøÅöä ĞǯŸöä āÅȚǪöäş Ûáȥèǰä ȓȥȣǪöäş ÛȳÆöä ŏÅĿę Őʒŋ ȣşÂøφş ǰÅęÅÅ ÅȚȚÅ Ż ĞŋäŸǪŋ ÅȚȚǨ ·ĞǯɘäĞǪÅä ğåȥǲȥţä ğÅȥɇä ÆğǗ ȻÆĞȮöä ÅÅÅöä ǰÅõ ·ĞÅÅȥÅȥş ĞÅɜğ ĞÅÆŸǲ ǰÅȽȥǨ ʒŋ ÛȖȶΣä øşÆöä ȸŋ ÅŋȥÅ 15 – 5 ÆȞä ɁȓÅţä ȒĦä Ž ȟÅŋÆöäş ÅÅÅĦÊöä āÅȚǪöä ǫÆğ ·ǰÅȞəÅì pleocytosis ȖʒÅÅÅöä ŎəÅÊöä ÅÅŸǹ ğÅǯõş ÅÅÅĦÊöä āÅȚǪöä ·øäşåş âşŸȽş ĞĿəÅÅǪ ÛĞĿȮĞÎöä ɁŸʒ ğÅȥǗ ʒŋ ÅÔĞöä ğÆΣ ÆŐȥ ĞĿÆʒ ğÅÅʒÅȒŋ ȸŋ ǰȥφÅȞÅ ÅȒÅÅŋ 80 Ž ƙäÅÔţä ɁȓÅţä ȥÔφ ɁøφÅʒ ·ȖȶΣä øşÆöä ÆȞä 15ş 5 ȳȥĿöä ƙä ŌöÆş ÛÅĞöÅɖ ÆφÅɘä ·(Meegan *et al*., 1981) ĞÅÂõÅţä ĞÅÛÅŸö ÅȶǪÊŋ ÆŐȥ ȸŋ ĞĿȮĞÎöä Ž ĞŋÅǹş ÅǯõǗ ğÅȥüä

ȖğȥÅ Åư Ûţȥĝèǖ ȸŋ Åǯõǰ ĆÆǪÊǨ ǰǗ ĞȞÅǨÅŋ ǰȥȮǨ ÅŋÆÅʒ ȳÆöä âƘÅǨ ğäøÅĿȞö ȸȮȣ

[illegible]

[illegible]

[illegible] 72 – 20 [illegible] %95 [illegible] %20 [illegible] greasy [illegible]

[illegible] 30 [illegible] *Culicoides* [illegible] 6 [illegible]

17 (1983) .(*Simulium*
14
*Aedes* (mcintoshi
*Vexan* *dalzieli*
1993
*Culex* *caspius*
*Culex* *Culex pipiens* *perexiguus*
1977 *Caballus* *theileri*
*poicilipes*
Diallo *et al.*, 2000; Fontenille *et al.*,) *Ochraceus*
.(1998

.*Eretmapodites*
.(Lefevre, 1989)
7

[illegible] livestock [illegible] (Swanepoel, 1981) [illegible] *dambos* [illegible] livestock [illegible] (Davies, 1985) [illegible]

[illegible]

[illegible] *lineatopennis* [illegible] (OIE, 1983) [illegible]

[illegible]

[illegible] (Yedloutschnig *et al.*, 1981) [illegible] (Brown *et al.*, 1981) [illegible] (Hoogstraal *et al.*, 1979) [illegible] 1977 [illegible] 1976 [illegible] (Shimshony Barzilai, 1983) [illegible]

[illegible] (Morvan *et al.*, 1992) [illegible]

(Drosten *et al.*, 2002; Espach *et al.*, 2002; Stall *et al.*, 2002)

seeding

Wesselsbron

1978

(Shope *et al.*, 1982)

2 – 1

[illegible]

[illegible] 0.40 [illegible] 0.05) [illegible] 0.80 [illegible]

[illegible] .teratogenic [illegible]

[illegible] Caplen *et al.*,) Fluoracil–5 [illegible] –5 [illegible] MP-12 [illegible] .(1985; Hubbard *et al.*, 1991 [illegible] immunogenic [illegible] MP-12 [illegible] virulence [illegible] 13 [illegible]

[illegible] sentinel [illegible] Lupton *et al.*, 1982;) [illegible] (House *et al.*, 1992 [illegible] 1979 [illegible]

(House *et al.*, 1992)


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Balkhy, H.H., Memish, Z.A. Rift Valley fever: An uninvited zoonosis in the Arabian Peninsula. *Int J Antimicrob Agents* 21(2):153–157, 2003.

Berge, T.O., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 2nd ed. Atlanta: Centers for Disease Control and Prevention; 1975. (DHEW Publ. CDC 75-8301.)

Brès, P. Prevention of the spread of Rift Valley fever from the African Continent. *Contrib Epidemiol Biostat* 3:178–190, 1981.

Brown, J.L., J.W. Dominik, R.L. Morrissey. Respiratory infectivity of a recently isolated Egyptian strain of Rift Valley fever virus. *Infect Immun* 33:848–853, 1981.

Caplen, H., C.J. Peters, D.H. Bishop. Mutagen-directed attenuation of Rift Valley fever virus as a method for vaccine development. *J Gen Virol* 66:2271–2277, 1985.

Davies, F.G. Observations on the epidemiology of Rift Valley fever in Kenya. *J Hyg (Lond)* 75:219–230, 1975.

Davies, F.G., K.J. Linthicum, A.D. James. Rainfall and epizootic Rift Valley fever. *Bull World Health Organ* 63:941–943, 1985.

Diallo, M., L. Lochouarn, K. Ba, A.A. Sall, M. Mondo, L. Girault, *et al*. First isolation of the Rift Valley fever virus from *Culex poicilipes* (Diptera: Culicidae) in nature. *Am J Trop Med Hyg* 62(6):702–704, 2000.

Drosten, C., S. Gottig, S. Schilling, M. Asper, M. Panning, H. Schmitz, *et al*. Rapid detection and quantification of RNA of Ebola and Marburg viruses, Lassa virus, Crimean-Congo hemorrhagic fever virus, Rift Valley fever virus, dengue virus, and yellow fever virus by real-time reverse transcription-PCR. *J Clin Microbiol* 40(7):2323–2330, 2002.

Easterday, B.C. Rift Valley fever. *Adv Vet Sci* 10:65–127, 1965.

Espach, A., M. Romito, L.H. Nel, G.J. Viljoen. Development of a diagnostic one-tube RT-PCR for the detection of Rift Valley fever virus. *Onderstepoort J Vet Res* 69(3):247–252, 2002.

Fontenille, D., M. Traore-Lamizana, M. Diallo, J. Thonnon, J.P. Digoutte, H.G. Zeller. New vectors of Rift Valley fever in West Africa. *Emerg Infect Dis* 4(2):289–293, 1998.

Henning, M.W. *Animal Diseases in South Africa*, 3rd ed. Pretoria: Central News Agency; 1956.

Hoogstraal, H., J.M. Meegan, G.M. Khalil, F.K. Adham. The Rift Valley fever epizootic in Egypt 1977–78. 2. Ecological and entomological studies. *Trans R Soc Trop Med Hyg* 73:624–629, 1979.

House, J.A., M.J. Turell, C.A. Mebus. Rift Valley fever: Present status and risk to the Western Hemisphere. *Ann N Y Acad Sci* 653:233–242, 1992.

Hubbard, K., A. Baskerville, J.R. Stephenson. Ability of a mutagenized virus variant to protect young lambs from Rift Valley fever. *Am J Vet Res* 52:50–55, 1991.

International Office of Epizootics (OIE). Aislamiento del virus de la fiebre del Valle de Rift en unas larvas de *Aedes lineatopennis*. *Bull OIE* 95:47, 1983.

Lefevre, P.C. La fièvre de la Vallée du Rift. *Ann Med Vet* 133:453–463, 1989.

Lupton, H.W., C.J. Peters, G.A. Eddy. Rift Valley fever: Global spread or global control? *Proc 86th Ann Meet U.S. Animal Hlth Assoc* 261–275, 1982.

Malik, S.K. Epidemiology of Rift Valley fever in domestic animals in Egypt. *In: Rift Valley Fever*. Paris: International Office of Epizootics; 1981. (Technical Series 1.)

McIntosh, B.M., J.H. Gear. Mosquito-borne arbovirus, primarily in the Eastern hemisphere. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Meegan, J.M., R.H. Watten, L.W. Laughlin. Clinical experience with Rift Valley fever in humans during the 1977 Egyptian epizootic. *Contrib Epidemiol Biostat* 3:114–123, 1981.

Meegan, J.M., J.P. Digoutte, C.J. Peters, R.E. Shope. Monoclonal antibodies to identify zinga virus as Rift Valley fever virus. *Lancet* 1:641, 1983.

Morvan, J., P.E. Rollin, S. Laventure, J. Roux. Duration of immunoglobulin M antibodies against Rift Valley fever virus in cattle after natural infection. *Trans R Soc Trop Med Hyg* 86:675, 1992.

Sall, A.A., E.A. Macondo, O.K. Sene, M. Diagne, R. Sylla, M. Mondo, *et al.* Use of reverse transcriptase PCR in early diagnosis of Rift Valley fever. *Clin Diagn Lab Immunol* 9(3):713–715, 2002.

Shimshony, A., R. Barzilai. Rift Valley fever. *Adv Vet Sci Comp Med* 27:347–425, 1983.

Shope, R.E., C.J. Peters, F.G. Davies. The spread of Rift Valley fever and approaches to its control. *Bull World Health Organ* 60:299–304, 1982.

Swanepoel, R. Observation on Rift Valley fever in Zimbabwe. *Contrib Epidemiol Biostat* 3:83–91, 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Outbreak of Rift Valley fever—Yemen, August-October 2000. *MMWR Morb Mortal Wkly* Rep 49(47):1065–1066, 2000.

Walsh, J. Rift Valley fever rears its head. *Science* 240:1397–1399, 1988.

World Health Organization (WHO). Rift Valley fever. *Wkly Epidemiol Rec* 63:49–56, 1988.

World Health Organization (WHO). Rift Valley fever: Egypt. *Wkly Epidemiol Rec* 69:74–75, 1994.

Yedloutschnig, R.J., A.H. Dardiri, J.S. Walker. Persistence of Rift Valley fever virus in the spleen, liver and brain of sheep after experimental infection. *Contrib Epidemiol Biostat* 3:72–76, 1981.

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## ROCIO ENCEPHALITIS ǋĭǀǋþǴ ƵƑĎŽǡǁƐ ƒƑǇǂǁƐ

**ICD-10 A83.6 Rocio virus disease ǋĭǀǋþ ƨ ǋþĭƺ ƀƐǭ ICD-10 A83.6**

Ǧʒƺȶǒä) *Flavivirus* ǥȦǻǑţǰ ǴèşƘȦöä ȄǼǅ ƂǗ ɄȶǬǆ ƘǑä ɃşȦφø âşƘƺ ːğ ǞǼǤǤÊöä

[illegible] Flaviviridae [illegible] [1] [illegible]

[illegible] 1975/3 [illegible] emerging zoonosis [illegible] 821 [illegible] 1978/6 [illegible] 1975/3 [illegible] %10 [illegible] 20 .(Iversson, 1980) [illegible] 153 [illegible] (%22.2) 34 [illegible] 1.007 [illegible] (*Zonotrichia capensis*) [illegible] .(de Souza Lopes, 1978a) [illegible]

[illegible] 12 [illegible] %50 [illegible] %20 [illegible] %20 [illegible] .(Rosemberg, 1977) [illegible]

[illegible] %75 [illegible]

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[1] [illegible]

[illegible] (de Souza Lopes *et al.*, 1986b)

[illegible] 1:2 [illegible] (Iversson, 1980) [illegible]

.(de Souza Lopes, 1986) [illegible] 30 – 15 [illegible]

[illegible] Entomological [illegible]

A. *serratus* [illegible] *Aedes scapularis* [illegible]

[illegible] 2.230 [illegible] .(Forattini, 1981)

[illegible] 23.896 [illegible] 47 [illegible]

[illegible] .(de Souza Lopes *et al.*, 1981) (*Psorophora ferox*)

[illegible] competence [illegible] *ferox* [illegible]

[illegible] .(Mitchell and Foratini, 1984) [illegible]

.(Mitchell *et al.*, 1981) [illegible]

[illegible] 1975 [illegible] 1976 [illegible] 100.000 [illegible] 55 [illegible] 1977 [illegible] 100.000 [illegible] 90 [illegible] .(Iversson, 1980) 1978 [illegible] .(Iversson *et al*., 1982) [illegible] .nonanthropophilic [illegible] .(Iversson, 1980) [illegible]

[illegible] 6 [illegible] .(de Souza Lopes, 1986) [illegible] Romano-Lieber and) (MAC-ELISA) M [illegible] .(Iversson, 2000

[illegible]

## ÙøШƐþøDŽǁƐ


Forattini, O.P., A. de Castro Gomes, J.L. Santos, E.A.B. Galati, E.X. Rabello, D. Natal. Observações sobre atividade de mosquitos Culicidae em mata residual no Vale do Ribeira, S. Paulo, Brasil. *Rev Saúde Publ* (São Paulo) 15:557–586, 1981.

Iversson, L.B. Aspectos da epidemia de encefalite por arbovirus na Região do Vale do Ribeira, S. Paulo, Brasil, no período de 1975 a 1978. *Rev Saúde Publ* (S Paulo) 14:9–35, 1980.

Iversson, L.B., A.P.A.T. Rosa, J.T. Rosa, C.S. Costa. Estudos serologicos para pesquisa de anticorpos de arbovirus em população humana da região do Vale do Ribeira. *Rev Saúde Publ* (São Paulo) 16:160–170, 1982.

Mitchell, C.J., O.P. Forattini. Experimental transmission of Rocio encephalitis virus by *Aedes scapularis* (Diptera: Culicidae) from the epidemic zone in Brazil. *J Med Entomol* 21:34–37, 1984.

Mitchell, C.J., T.H. Monath, C.B. Cropp. Experimental transmission of Rocio virus by mosquitoes. *Am J Trop Med Hyg* 30:465–472, 1981.

Romano-Lieber, N.S., L.B. Iversson. [Serological survey on arbovirus infection in residents of an ecological reserve.] *Rev Saude Publica* 34(3):236–242, 2000.

Rosemberg, S. Neuropathological study of a new viral encephalitis: The encephalitis of São Paulo South coast (preliminary report). *Rev Inst Med Trop* (S Paulo) 19:280–282, 1977.

de Souza Lopes, O. Rocio (ROC) strain: SPH 34675. *Am J Trop Med Hyg* 27:418–419, 1978a.

de Souza Lopes, O.S., L. de Abreu Sacchetta, T.L. Coimbra, G.H. Pinto, C.M. Glasser. Emergence of a new arbovirus disease in Brazil. II. Epidemiologic studies on 1975 epidemic. *Am J Epidemiol* 108:394–401, 1978b.

de Souza Lopes, O., L. de Abreu Sacchetta, D.B. Francy, W.L. Jakob, C.H. Calisher. Emergence of a new arbovirus disease in Brazil. III. Isolation of Rocio virus from *Psorophora ferox* (Humboldt, 1819). *Am J Epidemiol* 113:122–125, 1981.

de Souza Lopes, O. Encefalitis pelo virus Rocio. *Rev Inst Adolfo Lutz* 46:95–101, 1986.


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## hŲĭŦШỷǁƐ hƲƨNjþĭƻǁƐ DŽY !ШƑǆǁƐ ƅƑyDŽǓƐNj ƔơyDŽǁƐ ƒƑNJǂǁƐ
## ROTAVIRAL GASTROENTERITIS

### hŲĭŦШỷǁƐ hƲƨNjþĭƻǁƑǴ ƅƑyDŽǓƐ ƒƑNJǂǁƐ ICD-10 A08.0
### ICD-10 A08.0 Rotaviralenteritis

ȯÀÄüɟä ÆÀȝ åÄΣä ŏÄĦŋɟäş ğÆĦţä āÄŢǫöä ÛɄŸÀÛöä ŏÄĦŋɟäş ğÆĦţä āÄŢǫöä ⁚ğÄʐåäÄţä ŌDzĦöä ȯÄŢèǕ ÛÆĬöʐöä ŌDzĦöä ȯÄŢèǕ ÛǦĦĬȓÀöä ÀÅäÅÀʅäş ȷŸŧΣäş øʐŢţäş ȯʐDzĦöäş ·ǦĦĬȓÀöä ȷäÅÅÀöä ȯÄŢèǕ ÛNebraska ÀÖèäƎÆä

ǦŸĬÔʐ ÛRotavirus *ǦǂŸDzĦöä ǦèşKÀöä* ÈÅDZ ȸŋ ǦǂŸDzĦöä ğÅèşKÀöä ⁚ğÅĬǤǤÊöä БǓ A ȸŋ ǦǂŸDzĦöä ǦèşKÀöä ɄŁ ÈÅƨä ȸŋ ğÂĬŧţä ţäʐǫɟä ·Reoviridae ǦÅʐÅÀöä ğÅèşKÀöä

[illegible] .tentative [illegible] G [illegible] F [illegible] .E .*orthoreovirus* [illegible] *Orbivirus* [illegible] *rota* [illegible] 60 [illegible] spokes [illegible] 11 [illegible] VP6 [illegible] %99 [illegible] .A serogroup [illegible] Gómez) ; G [illegible] B [illegible] .(and Grinstein, 1991; Paul and Lyoo, 1993 [illegible] A [illegible] 11 [illegible] A [illegible] VP6 [illegible] .serotypes [illegible] VP4 [illegible] VP7 [illegible] electropherotypes [illegible] .polyacrylamide [illegible] A [illegible] 1 [illegible]

[illegible] .(Nakagomi *et al.*,1990) [illegible]

[illegible] .(Steele and Ivanoff, 2003; Kirkwood *et al.*, 2002; Cunliff *et al.*,2001)

[illegible] Herrmann and Blacklow,) [illegible] .(1991 [illegible] .(1991a) [illegible]

[illegible] plaque [illegible]

[illegible]) feline [illegible]

[illegible] (K9) [illegible] (cat [illegible] 97 [illegible] (FR-I [illegible] (AU-1 [illegible] constellation [illegible] Nakagomi and Nakagomi,) [illegible] (Flores *et al.*,1986) [illegible] (1991 [illegible]

[illegible] (Hoshino *et al.*, 1983b) 3 [illegible] gnotobiotic [illegible] (Holmes, 1979) [illegible] (Schwers *et al.*, 1982) [illegible] Rodríguez *et*) *al.*, [illegible] (1978

[illegible] Woode) [illegible] (Murakami *et al.,* 1983) [illegible] (and Bridger, 1975 [illegible] (Hoshino *et al.,*1983a) [illegible] (McNulty *et al.,* 1980) [illegible] (McNulty., 1991) [illegible]

[illegible]

[illegible] 1973 [illegible]

[illegible] %50 [illegible] .(Davidson *et al.*, 1975) [illegible] 5 [illegible] – [illegible] – [illegible] 6

[illegible] 5 [illegible] 3 [illegible] 5 [illegible] 8 [illegible] .(Yolken and Murphy, 1982) [illegible]

[illegible] 1989 [illegible] (1990 – 1989) [illegible] 23 [illegible] 99 [illegible] %20 [illegible] 48.035 [illegible] %6 [illegible] %36 [illegible] .(CDC, 1991) [illegible] %20 [illegible] 5 – 0 [illegible] 557 [illegible] 266 [illegible] %4.1 [illegible] 291 [illegible] %29.2 [illegible] %96.6 [illegible] 13 [illegible] 11 [illegible] 392 [illegible] .(Cardoso *et al.*, 1992) [illegible] %27 [illegible] 1987 [illegible] 1986 [illegible]

[illegible] .(Gomwalk *et al.*, 1993) [illegible] %25.4 [illegible] 665 [illegible] 288 [illegible] (%15.3) 44 [illegible]

[illegible] 10 – 5 [illegible] .(Kapikian *et al.*, 1980) [illegible] %40 [illegible] %20 [illegible] %60 [illegible] %40 [illegible] 5 [illegible] 3 [illegible] %14 [illegible] %7 [illegible] .(PAHO, 1982) [illegible] %45.3 [illegible] Mata *et al.*,) %13.4 [illegible] .(1983

[illegible]

[illegible] %60 [illegible] .(PAHO, 1982) [illegible]

[illegible]

[illegible] %100 [illegible] %90 [illegible] %38 [illegible] coronavirus [illegible] %90 [illegible] .(WHO, 1980) Woode,) [illegible] .(1978

[illegible] 14 – 3 [illegible] 6 – 4 [illegible] 3 – 1 [illegible] 33 [illegible] .(Woode, 1978) [illegible] 33 [illegible] 6 [illegible] %50 [illegible] %57.5 [illegible] 36 [illegible] %50 [illegible] %88.9 [illegible] %55.6 [illegible] *Cryptosporidium* [illegible]

39.4% ... %11.1 ... %3 ... (Bellinzoni *et al.*, 1990).

%70 ...

(Takahashi *et al.*, 1979).

7 ... %25 ... %30 ... 39° ... %50 ... 10 ... (Stals *et al.*, 1984) ... 5 ... 2 ...

5 ... nursing ...

(Yolken and Murphy, 1982).

absorbent ... crypt ... erosion ...

[illegible] [18] [illegible] gnotobiotic [illegible]

[illegible] [8 – 6] [illegible] [30] [illegible] Fenner *et al.*,) [illegible] (1993.

[illegible] $9 - 5$ [illegible] $10^{11} - 10^{7}$ [illegible] (Woode, 1978). [illegible] (Holmes, 1979) [illegible] $10 - 5$ [illegible] (Gillespie and Timoney, 1981). [illegible]

[illegible]

[illegible] (Hopkins *et al.*, 1984) [illegible] (PAHO, 1982) [illegible] Hermann and Blacklow, 1990; Stals *et al.*, 1984 Santosham *et*) [illegible] 30 [illegible] (*al.*, 1983 [illegible] 12 [illegible] 9 [illegible] (Fragoso *et al.*, 1986) [illegible]

[illegible] (WHO, 1980) [illegible]

[illegible] 8 [illegible] 5 [illegible] 3 [illegible] immunoelectroosmophoresis [illegible]

[illegible] erythroimmunoassay [illegible] VP6 [illegible] 1 [illegible] Gómez and) electropherotype [illegible] reliable [illegible] (Grinstein, 1991 [illegible] (Chen *et al.*, 1999) [illegible] (Haikala *et al.*, 1983) [illegible] screening [illegible] (Sato *et al.*, 1981) [illegible] (MA 104) [illegible]

[illegible] A [illegible] M [illegible]

[illegible] B [illegible]

[illegible]

[illegible] 5 [illegible] acid .ethylenediaminetetraacetic [illegible]

[illegible] .(Saif *et al.*, 1983) incomplete Freund [illegible] parenterally [illegible] 5 – 3 [illegible] 10 – 7 [illegible] .(Paul and Lyoo, 1993) [illegible] A [illegible]

[illegible] 6 – 5 [illegible] RIT 4237 [illegible]

[illegible] WC-3 [illegible] 18006 MMU [illegible] controlled [illegible] (I-RRV [illegible] WC-3 [illegible] 2 [illegible] 1 [illegible] VP7 [illegible] 18006 MMU [illegible] %67 [illegible] %88 [illegible] .1 [illegible]

## [illegible]


Avendaño, L.F., S. Dubinovsky, H.D. James, Jr. Comparison of viral RNA electrophoresis and indirect ELISA methods in the diagnosis of human rotavirus infections. *Bull Pan Am Health Organ* 18:245–249, 1984.

Bellizoni, R.B., J. Blackhall, N.R. Terzolo, *et al.* Microbiology of diarrhoea in young beef and dairy calves in Argentina. *Rev Argent Microbiol* 22:130–136, 1990.

Bellizoni, R.B., N.M. Mattion, D.O. Matson, *et al.* Porcine rotaviruses antigenically related to human serotypes 1 and 2. *J Clin Microbiol* 28:633–636, 1990a.

Bohl, E.H. Enteric viral infections as related to diarrhea in swine. *In*: Acres, S.D., ed. *Proceedings of the Third International Symposium on Neonatal Diarrhea*. University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 1980. Cited in: Hoshino, Y., R.G. Wyatt, H.B. Greenberg, A.R. Kalica, J. Flores, A.Z. Kapikian. Isolation, propagation, and characterization of a second equine rotavirus serotype. *Infect Immun* 41:1031–1037, 1983a.

Cardoso, D., R.M. Martins, E.W. Kitajima, *et al.* Rotavirus e adenovirus em criancas de 0–5 anos hospitalizados com ou sem gastroenterite em Goiânia-GO, Brasil. *Rev Inst Med Trop Sao Paulo* 34:433–439, 1992.

Chasey, D., P. Davies. Atypical rotaviruses in pigs and cattle. *Vet Rec* 114:16–17, 1984.

Chen, J.C., ed. *Control of Communicable Diseases in Man*. 17th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 2000.

Chen, Y., J. Zhao, L. Yan. [Comparison of three methods in detection of rotavirus infection in neonates.] *Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi* 30;13(2):180–182, 1999.

Cunliffe, N.A., W. Dove, J.E.G. Bunn, M.B. Ramadam, J.W.O. Nyangao, R.L. Riveron *et al.* Expanding global distribution of rotavirus serotype G9: Detection in Libry, Kenya, and Cuba. *Emerg Infect Diseases* 7(5):890–892, 2001.

Davidson, G.P., R.F. Bishop, R.R. Townley, I.H. Holmes. Importance of a new virus in acute sporadic enteritis in children. *Lancet* 1:242–246, 1975.

Espejo, R., P. Romero, E. Calderón, N. González. Diagnóstico de rotavirus por electroforesis del RNA viral. *Bol Med Hosp Infant Mex* 35:323–331, 1978.

Fenner, F.J., E. Poul, J. Gibbs, *et al.* *Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.

Flewett, T.H., A.S. Bryden, H. Davies, G.N. Woode, J.C. Bridger, J.M. Derrick. Relation between viruses from acute gastroenteritis of children and newborn calves. *Lancet* 2:61–63, 1974.

Flores, J., Y. Hoshino, E. Boeggeman, R. Purcell, R.M. Chanock, A.Z. Kapikian. Genetic relatedness among animal rotaviruses. *Arch Virol* 87:273–285, 1986.

Fragoso, M., A. Kumar, D.L. Murray. Rotavirus in nasopharyngeal secretions of children with upper respiratory tract infections. *Diagn Microbiol Infect Dis* 4:87–88, 1986.

Gaul, S.K., T.F. Simpson, G.N. Woode, R.W. Fulton. Antigenic relationships among some animal rotaviruses: Virus neutralization in vitro and cross-protection in piglets. *J Clin Microbiol* 16:495–503, 1982.

Gerna, G., A. Sarasini, S. Arista, *et al.* Prevalence of human rotavirus serotypes in some European countries 1981–1988. *Scand J Infect Dis* 22:5–10, 1990.

Gillespie, J.H., J.F. Timoney. *Hagan and Bruner's Infectious Diseases of Domestic Animals: With Reference to Etiology, Pathogenicity, Immunity, Epidemiology, Diagnosis, and Biologic Therapy*, 7th ed. Ithaca: Cornell University Press; 1981.

Gómez, J.A., S. Grinstein. Rotavirus. *In*: Carballal, G., J.R. Oubiña, eds. *Virología Médica*. Buenos Aires: El Ateneo; 1991.

Gomwalk, N.E., N.J. Umoh, L.T. Gosham, A.A. Ahmad. Influence of climatic factors on rotavirus infection among children with acute gastroenteritis in Zaria, northern Nigeria. *J Trop Pediatr* 39:293–297, 1993.

Haikala, O.J., J.O. Kokkonen, M.K. Leinoen, T. Nurmi, R. Mantyjarvi, H.K. Sarkkinen. Rapid detection of rotavirus in stool by latex agglutination: Comparison with radioimmunoassay and electron microscopy and clinical evaluation of the test. *J Med Virol* 11:91–97, 1983.

Herrmann, J.E., N.R. Blacklow. Rotavirus. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*. 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

Holmes, I.H. Viral gastroenteritis. *Progr Med Virol* 25:1–36, 1979.

Hopkins, R. S., G.B. Gaspard, F.P. Williams, Jr., R.J. Karlin, G. Cukor, N.R. Blacklow. A community waterborne gastroenteritis outbreak: Evidence for rotavirus as the agent. *Am J Public Health* 74:263–265, 1984.

Hoshino, Y., R.G. Wyatt, H.B. Greenberg, A.R. Kalica, J. Flores, A.Z. Kapikian. Isolation, propagation, and characterization of a second equine rotavirus serotype. *Infect Immun* 41:1031–1037, 1983a.

Hoshino, Y., R.G. Wyatt, H.B. Greenberg, A.R. Kalica, J. Flores, A.Z. Kapikian. Serological comparison of canine rotavirus with various simian and human rotaviruses by plaque reduction neutralization and haemagglutination inhibition tests. *Infect Immun* 41:169–173, 1983b.

Kapikian, A.Z., H.W. Kim, R.G. Wyatt, *et al.* Reovirus like agent in stools: Association with infantile diarrhea and development of serologic tests. *Science* 185:1049–1053, 1974.

Kapikian, A.Z., R.G. Wyatt, H.B. Greenberg, *et al.* Approaches to immunization of infants and young children against gastroenteritis due to rotaviruses. *Rev Infect Dis* 2:459–469, 1980.

Kirkwood, C., N. Bogdanovic-Sakran, R. Clark, P. Masendycz, R. Bishop, G. Barnes. Report of the Australian Rotavirus Surveillance Program, 2001/2002. *Commun Dis Intell* 26(4):537–540, 2002.

Lambert, J.P., D. Marissens, P. Marbehant, G. Zissis. Prevalence of subgroups 1, 2, and 3 rotaviruses in Belgian children suffering from acute diarrhea (1978–1981). *J Med Virol* 11:31–38, 1983.

Mata, L., A. Simhon, R. Padilla, *et al.* Diarrhea associated with rotaviruses, enterotoxigenic *Escherichia coli*, *Campylobacter*, and other agents in Costa Rican children, 1976–1981. *Am J Trop Med Hyg* 32:146–153, 1983.

McNulty, M.S. Rotavirus infections. *In*: Calnek, B.W., H.J. Barnes, C.W. Beard, W.M. Reid, H.W. Yoder, Jr., eds. *Diseases of Poultry*, 9th ed. Ames: Iowa State University Press; 1991.

McNulty, M.S., G.M. Allan, D. Todd, *et al.* Isolation of rotaviruses from turkeys and chickens: Demonstration of distinct serotypes and RNA electropherotypes. *Avian Pathol* 9:363–375, 1980.

Mebus, C.A., R.G. Wyatt, R.L. Sharpee, *et al.* Diarrhea in gnotobiotic calves caused by the reovirus-like agent of human infantile gastroenteritis. *Infect Immun* 14:471–474, 1976.

Middleton, P.J., M. Petric, M.T. Szymanski. Propagation of infantile gastroenteritis virus (orbi-group) in conventional and germfree piglets. *Infect Immun* 12:1276–1280, 1975.

Much, D.H., I. Zajac. Purification and characterization of epizootic diarrhea of infant mice virus. *Infect Immun* 6:1019–1024, 1972.

Murakami, Y., N. Nishioka, Y. Hashiguchi, C. Kuniyasu. Serotypes of bovine rotaviruses distinguished by serum neutralization. *Infect Immun* 40:851–855, 1983.

Nakagomi O., T. Nakagomi. Genetic diversity and similarity among mammalian rotaviruses in relation to interspecies transmission of rotavirus. *Arch Virol* 120:43–55, 1991.

Nakagomi, O., A. Ohshima, Y. Aboudy, *et al.* Molecular identification by RNA-RNA hybridization of a human rotavirus that is closely related to rotaviruses of feline and canine origin. *J Clin Microbiol* 28:1198–1203, 1990.

Newman, J.F.E., F. Porown, J.C. Bridger, G.N. Woode. Characterization of a rotavirus. 20b. *Nature* 258:631–633, 1975.

Pan American Health Organization (PAHO). The rotaviruses. *Bol Epidemiol* 3(5):12–15, 1982.

Paul, P.S., Y.S. Lyoo. Immunogens of rotaviruses. *Vet Microbiol* 37:299–317, 1993.

Plaza, A., S. Grinstein, G. Muchinik, M. Valvano, J. Gómez. Estudio clínico y epidemiológico de la diarrhea por rotavirus en la infancia. *Arch Argent Pediatr* 80:289–308, 1982.

Rodríguez, W.J., H.W. Kim, C.D. Brandt, *et al.* Sequential enteric illnesses associated with different rotavirus serotypes. *Lancet* 2:37, 1978.

Rotaviruses of man and animals [editorial]. *Lancet* 1:257–258, 1975.

Saif, L.J., D.R. Redman, K.L. Smith, K.W. Theil. Passive immunity to bovine rotavirus in newborn calves fed colostrum supplements from immunized or non immunized cows. *Infect Immun* 41:1118–1131, 1983.

Santosham, M., R.N. Yolken, E. Quiroz, *et al.* Detection of rotavirus in respiratory secretions of children with pneumonia. *J Pediatr* 103:583–585, 1983.

Sato, K., Y. Inaba, T. Shinozaki, R. Fujii, M. Matumoto. Isolation of human rotavirus in cell cultures: Brief report. *Arch Virol* 69:155–160, 1981.

Schroeder, B.A., J.E. Street, J. Kalmakoff, A.R. Bellamy. Sequence relationships between the genome segments of human and animal rotavirus strains. *J Virol* 43:379–385, 1982.

Schwers, A., P. Hoyois, G. Chappuis, L. Dagenais, P.P. Pastoret. Propagation of bovine rotavirus by cats and dogs. *Ann Rech Vet* 13:303–308, 1982.

Simhon, A. Virología de los rotavirus y epidemiología de la diarrhea por rotavirus. *Bol Of Sanit Panam* 98:295–310, 1985.

Spence, L. Rotavirus. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Stair, E.L., M.B. Rhodes, R.G. White, C.A. Mebus. Neonatal calf diarrhea: Purification and electron microscopy of a coronavirus-like agent. *Am J Vet Res* 33:1147–1156, 1972.

Stals, F., F.J. Walther, C.A. Bruggeman. Faecal and pharyngeal shedding of rotavirus and rotavirus IgA in children with diarrhoea. *J Med Virol* 14:333–339, 1984.

Steele, A.D., B. Ivanoff. Rotavirus strains circulating in Africa during 1996–1999: emergence of G9 strains and P[6] strains. *Vaccine* 17;21(5-6):361–367, 2003.

Takahashi, E., Y. Inaba, K. Sato, *et al.* Antibody to rotavirus in various animal species. *Natl Inst Anim Health Q* (Tokyo) 19:72–73, 1979.

Torres-Medina, A., R.G. Wyatt, C.A. Mebus, N.R. Underdahl, A.Z. Kapikian. Diarrhea caused in gnotobiotic piglets by the reovirus-like agent of human infantile gastroenteritis. *J Infect Dis* 133:22–27, 1976.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Rotavirus surveillance: United States, 1989–1990. *MMWR*

Morb Mort Wkly Rep 40:80–81, 87, 1991.
White, R.G., C.A. Mebus, M.J. Twiehaus. Incidence of herds infected with neonatal calf diarrhea virus (NCDV). *Vet Med Small Anim Clin* 65:487–490, 1970.
Woode, G.N. Transmissible gastroenteritis of swine. *Vet Bull* 39:239–248, 1969.
Woode, G.N. Epizootiology of bovine rotavirus infection. *Vet Rec* 103:44–46, 1978.
Woode, G.N., J.C. Bridger. Viral enteritis of calves. *Vet Rec* 96:85–88, 1975.
Woode, G.N., J.C. Bridger, G. Hall, M.J. Dennis. The isolation of reovirus-like agent associated with diarrhea in colostrum-deprived calves in Great Britain. *Res Vet Sci* 16:102–105, 1974.
World Health Organization (WHO). Rotavirus and other viral diarrhoeas: WHO scientific working group. *Bull World Health Organ* 58:183–198, 1980.
Yolken, R., M. Murphy. Sudden infant death syndrome associated with rotavirus infection. *J Med Virol* 10:291–296, 1982.
Yolken, R.H., G.A. Losonsky, S. Vonderfecht, F. Leister, S.B. Wee. Antibody to human rotavirus in cow's milk. *N Engl J Med* 312:605–610, 1985.

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## [illegible]
## RUSSIAN AND CENTRAL EUROPEAN SPRING-SUMMER ENCEPHALITIS

[illegible] ICD-A84.0

[illegible] A84.1 ([illegible]

**ICD-10 A84.0 Far Eastern tick-borne encephalitis (Russian spring-summer encephalitis); A84.1 Central European tick-borne encephalitis**

[illegible] biphasic [illegible]

[illegible] Casals [illegible] *Flavivirus* [illegible] [1] [illegible] Powassan [illegible] Langat [illegible] Omsk [illegible]

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[illegible] [1] [illegible]

.(Hou *et al.*, 1991) *Ixodes ovatus*

.1951 660

.(Monath, 1982) 100.000 20 2.000

8 3 %80

(1989)

*persulcatus*

*Ixodes*

12 2.922 %14.6

6

*Clethrionomys*

Kozuch *et al.*,) [illegible] *I. ricinus* [illegible] *glareolus* [illegible] 15 [illegible] 5 [illegible] .(1990 Kahl and) [illegible] %0.9 [illegible] .(Radda, 1988 .(Chambouris *et al.*, 1989) [illegible] 429 [illegible] %8.6 [illegible] 206

[illegible] .(Asher, 1979) %20 [illegible]

[illegible] 10 – 7 [illegible] .%2 [illegible] %1 [illegible]

[illegible] %0.2 [illegible] %2 [illegible] (McNeil *et al.*, 1985 [illegible] Kunz) [illegible] 7 – 4 [illegible] 20 – 8

ÛÆǤÊǨȿ ÛǤǖǟǖ ğǖǟɀǖΣǟ Ž ǥåǖȝ ôāǖȝǖ ǦǟɀǖÔɳ Ǩȡ ʔȿǖǗ ·ğǖǟɀǖΣǟ Ž ôǖţǟ Ž âȿǨǖǗ ȾøǤǖǗǖ ǴǖǗǖ Ƀǖǖ ·ǖȝǖţȿ ȷŸŁΣǟȿ āŸǖ Ž ǖȑǖɳ ÛǕǗ ǖǖǥǕ ÿɀǖ ɃǕ Ⱦøǖǖ ÿɀǖ ȸɳ âȿǨǖ ǆǖù ȝɳ ÿǖ 5 ÿȿǖ ǖȩ ÿå âǨǖ ɃǕ ǦǟǖǦǖ ÿǖȡȷǟ ÿǖ 6 – 5 Ž ğɀţȿ ȟǖɳǖ āǖǗȿ ÛÿǖǗ âǨǖ ȷŸŁΣǟ Ž ôǖţǟ ÆǤÊǖ ·ȝǖÊǖ Ž ȾǟǤù ŌȮÎǟ ϙåǖΣǟ ôǖţǟ Ž ôāǖȝȷǟ Ȩɀǖɀǖ .(Gresíková and Beran, 1981)

āǖȒǖǟ ǦǖǖǖţǟǗ ğǖǟɀǖΣǟ ȾÎǖ ·ȟǖɳǖȿ ǖǖǖÊǖ āǖǗǖ ôāǖȝǖ ȝɳ ǖȝǖţȿ ÿǖȡȷǟ ǖɳǖȝ) rear ǨǖɳǖɳȷǕ Ǩɀǖ Ûǖ Ž ȾǄǖÎǨ paresis ȯǖǹ ǖŁǖȝ ǖǖ Ûǖȿå ȸŁȑ ȾȩǖÎǖ ȷǖèȷǟ chattering ǖǖȍ ȝɳ (lockjaw ŌǖŌɳ Ō̄ɀ) ǟǖȑȿ (ȾǖǕ ǖÎǖɳ ȸɳ ȷɀȮǖ ɍ ɃǨǤÊǖ āǖȒǖ ÆǤÊǖ ·ǖǖǖǖǨ %12 ğɀȿ Û(Èɳǖɿǟ ȾǖǖŌǖ ÆÔǖǖ Ƶǖ Ȯǖ ǖɳǖȝ) ÛŌŁȍȿ ɭǖǹȿ ȾǄǖÎǨ tetraparesis Ⱦȝǖø ȯǖǹ ȝɳ ɃøǖǄǖɍǟ ȟǖɳǖȿ ǖǖǖÊǖ āǖǗǖ %100 ǦǖΣǟ ǦǨǖɳǕ ȯǖǖɳ .opisthotonos ɃǖǗǖ ǰǖÎǖȿ ȷǖèȷǟ ǖǖȍȿ ŌǖŌɳ Ō̄ɀȿ .(Poppensiek, 1986)

ϙǖƠȿ ǖǗǖǤù Ž nidal ǦǖȑɀɳɁ ʔȿǖǗ :(26 ŌȮÎǖ) ȯǖŌǖɍǟ ǟǖùȿ ʔȿǖǗ øǖÔɳ ÛǥǨ8Ôǖ ğǖǖǖǖȿ åǖǖǖ Ǩǟ âȿǨǖ øȿǖ ·ğǖǖ8ǖ Ōǹǖå Ⱦȝǖţǟ ȿǕ ǥǖǄÎţǟ Ȩùǖţǟ Ž *Ixodes* *ɭǖǖ Ⱦȩɀǖ åɀǖǖ* ɀŁ ʔÔȩȷǟ ȧǖÎǖ āǖȒ ȾÊǖǖ ŌɳǖǖǖÔ· øǖɀǖ ǦȍǖǹȿȾ ţǖɀɸȷ ȸȮƺ ǖŁõ .*I. ricinus* *Ⱦȝȿǖɿǟ åɀǖǖ* ɀŁ ȾøǟȿǿȿȷǕ āǖȒǖȿ Û*persulcatus* *ǦǖǖǖǖǦɳɀǐǖǖȿ* *Haemaphysalis concinna* *ǦǖèǖǖţǕ Ǧɳɀǐǖǖ* ·Ōǖɳ åǖǖǖ ȸɳ ʔǖǹǕ ȷǕ *Dermacentor* *ǖǖƨǟ Èǹǖ* ȸɳ ǥǖǖȝ ţǖɀǖȿ *H . japonica douglasi* *ǦǖèŸȡȿǖǖ* ǥøåǖȩ (Ⱦȝȿǖɿǟ åɀǖǖ Ûɭǖǖ Ⱦȩɀǖ åɀǖǖ) ǦÊǖǖ Ōȩǖɀǖ ȷǕ ǖùɀǨ ǖŌǖ ·Ōȩǖǖ øȿǖ ÿɀŌǨ Ōȩǖɀǖ ȸɳ ǖǖǖǖǨ %6 Ž ȯȿȷǟ ϙǖȝȿ ÛǖȒǖ ŌǥǖţǤ Ǝȝȿ ȒǖţǤ Ǝȝ ȯǖŌǖɍǟ ʔǖȝ ·ǦǖǖǖţǤ

ǦǖɀǖǤ ğǖåǖǖǖ ʔØ8ǖ ·ğǖɀǖè 4 – 2 ɭǖǖ Ⱦȩɀǖ åɀǖǖ ǦǖɳǖȮǖ ǥǖΣǟ ǥøȿå ȧǖ8ǖÊǨ ǥǨǤȮǖ ğǖǖǖǖ ʔǖȝ ǦǖǖǦǖ ğǖåǖǖǖ ʔØ8ǖ Ǩǥ Ž ÛǤǖǖǖ øɀǖÛǖȿ ǥǨ8Ôǖ ğǖǖǖǖ ʔǖȝ ǕǖȽǟ ɃǕ ǖǖȝȿ ȯǖøȿȷǟ ȯǖǤǄ Ž Ⱦȝȿǖɿǟ åɀǖǖ Žǖǖ8ƨǟ ʔǖţǟ ÛǖǤǖ ·ǖǖɳ ǦǄǖǖǖȿ ǦǖǖǖǤ

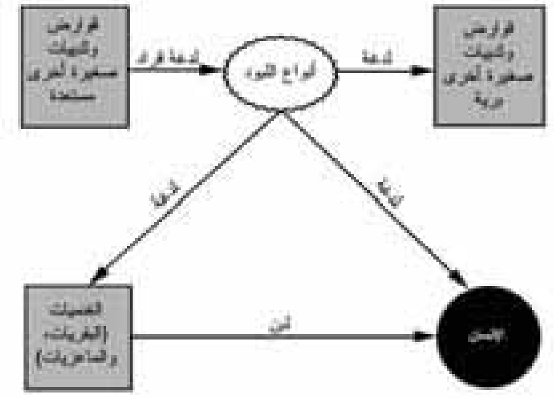
3ĔæÀöä Ž âşĶÀŸö ğÀŧÅŘŧõ ģĶ8Ôöä ğÀĔĀÆǯöä ÿÆơ .(Varma, 1989) ƱÊŸüĵä ȡŋ ģÆĀÆŋş ĞĔöÀ3 ğäøÀĔ3 ÛĞĀƎöä ôøäɀÕöä ȡŋ Ōçĵä ʔŸ3 ţäɀφÜ 10 ʔÆö ÆDZɀĀ .ƵĔÔöäş ĞĔçĶöä ĞŸģÀţä ȡŋ ʔşÆĤöä ʔŸ3 åäÀÕöä Şɀİʒ .(Gresíková and Beran, 1981) ÿÆöä âĶÀǩ

.ĞĔ8öÀĞöä ĞŸģÀŋ ʔøϘģ

âĶÀϘæ āÀÔǩ ĞĀƎöä øɀĔÛöäş ģĶ8Ôöä ğÀĔĀÆǯöä ȡŋ ģÆĀÆ3 ţäɀφÜ ɉÜ ƎϘÅţä Ž ǨĞϙ ÆÕö Ž ĀĀÀÀè ģÀĿÀş Ķȡ ʔşÆĤöä ʔÕĞǩş ÛáäÀç Ōĝç ȡŋ ȟÆŸǩ şÜ ĀĔÛĔŢ ĠÕŸǩ ÀŋÆĀ3 ȯɀÛŋ ÿǻ ȡŋ ɉäɀĔģ) ĞĠȡÂöäş ØÀĀÕöä Ōǯŋ ğÀφäɀĔΣä ȐĤæ Ž ÿÆöä Ž âşĶÀöä ʔÕĞĀ .ğɍÀΣä ĻŢĤŋ

.ŏÀϘɩqä ȯŸǹ ĞŸĀɀü ģÆŋ êÀĀɩäş (dormouse āÀDzĀÊöä ȼĞÎĀ ôøäɀÕöä

.ȯÀÕϘφɍä ĞÕŸģ – ƱøæşøşÜ Ûèɀöäş ƱèşÀöä ƱĀĔÔöä ƱĤĔæÀöä ȟÀŋÆöä āÀŢϘöä :26 ŌȮÎöä



Ğȡöä ȯŸǹ ȡŋ ʔşÆĤöä – Â3ÀţÀş ÿÀĀȡĵÀõ – ĞÀDZäÆöä ğÀφäɀĔΣäş ɉÀÊφqä ȡŋ Ōõ ȔÕϘŸĀ ȯŸǹ ȡŋ ʔşÆĤöä ÆÊϘȮĀ ɉÜ ɉÀÊφŘö ȡȮɛ Àŧõ .ʔşÆĤŸö ĞĔĤĔĞü Āøúæ ɉɀŸǹÆĀ ÀŋÆĀ3 åäÀç ÀŋÆĀ3 åäÀÕöÀæ ĀÀÆĤÀŋ ÿÀĀȡĵäş Â3Àţä Ōõ ĠĞÔĀ .ĞĀÆĤÀŋ ÿÀĀȡÜ şÜ Â3Àŋ ȡŋ ƏDZ şÜ Əö ȯşÀĀǩ ɉÜ ğÀĞϙÜ ȡȮŧţä ȡŋ ɉÀõ .ÀŒÀĞöÜ Ž âşĶÀöä dzÀÛǩş ÛğÀφäɀĔΣÀæ ĞÀüɀϘŋ ĘüÀŋ Ž ʔ3Àǩ .ÀŒÀĞöÜ Ž âşĶÀöä dzÀüş ÿÀĀȡĵäş ĞĔɩÀţä Ž ÿÆöä âĶÀǩ ƂÜ ĀĔĞĀÀƟ Ɓáük ʔÆĤÀŋ åäÀç Ğȡöä ȟäɀÊõ øɀĔÛöä ÿÆơ Æç .øÀÕæĵä ɉÀĞöÜ āÀɩ ȡŋ ǨĞÊϘõä ĞĀÀÎæ ğɍÀģ 8ÀĤǩ Ɓ ȡÔö

.ģÆĀÆDZ 3çäɀŋ ƂÜ ğäåäÀÕöä ŌŧΣ vehicle

.(Gresíková and Beran, 1981)

4)

Roggendorf *et*)

.(*al.*, 1981; Hofmann *et al.*, 1983

20

.%99

.(Brandt 1990, Kunz *et al.*, 1980

Kunz)

[illegible]

[illegible]


Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Asher, D.M. Persistent tick-borne encephalitis infection in man and monkeys: Relation to chronic neurologic disease. *In*: Kurstak, E., ed. *Arctic and Tropical Arboviruses*. New York: Academic Press; 1979.

Brandt, W.E. From the World Health Organization. Development of dengue and Japanese encephalitis vaccines. *J Infect Dis* 162:577–583, 1990.

Clarke, D.H., J. Casals. Arboviruses: Group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Chambouris, R., W. Sixl, D. Stunzner, M. Kock. Antikorper bei Hunden gegen das Virus der Zeckenencephalitis in Griechenland. *Geogr Med Suppl* 3:11–14, 1989.

Fox, J.P. Russian spring-summer encephalitis and looping-ill. *In*: Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 12th ed. Philadelphia: Saunders; 1967.

Goldblum, N. Group B arthropod-borne viral diseases. *In*: van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Gresíková, M., G.W. Beran. Tick-borne encephalitis (TBE). *In*: Beran, G.W., section ed. Section B, Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1981.

Hofmann, H., F.X. Heinz, H. Dippe. ELISA for IgM and IgG antibodies against tick-borne encephalitis virus: Quantification and standardization of results. *Zentralbl Bakteriol Mikrobiol Hyg [A]* 255:448–455, 1983.

Hou, Z.L., D.I. Zi, W.L. Huang, *et al.* [Two virus strains related to the Russian spring-summer encephalitis virus have been isolated from *Ixodes ovatus* in Yunan.] *Chinese J Virol* 7:75–77, 1991.

Kahl, O., A.C. Radda. Occurrence of tick-borne encephalitis (TBE) virus in Berlin (West). *Zentralbl Bakteriol Mikrobiol Hyg [A]* 268:482–486, 1988.

Karabatsos, N., ed. *Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

Klockmann, U., K. Krivanec, J.R. Stephenson, J. Hilfenhaus. Protection against European isolates of tick-borne encephalitis vaccine after vaccination with a new tick-borne encephalitis vaccine. *Vaccine* 9:210–212, 1991.

Kozuch, O., M. Labuda, J. Lysy, P. Weismann, E. Krippel. Longitudinal study of natural foci of Centre European encephalitis virus in West Slovakia. *Acta Virol* 34:537–544, 1990.

Kunz, Ch., F.X. Heinz, H. Hofmann. Immunogenicity and reactogenicity of a highly purified vaccine against tick-borne encephalitis. *J Med Virol* 6:103–109, 1980.

McNeil, J.G., W. M. Lednar, S.K. Stansfield, R.E. Prier, R.N. Miller. Central European tick-borne encephalitis: Assessment of risk for persons in the armed services and vacationers. *J Infect Dis* 152:650–651, 1985.

Monath, T.P. Arthropod-borne viral encephalitides. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. Vol. 2: *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

Poppensiek, G.C. *Foreign Animal Diseases*. Ithaca: Cornell University; 1986.

Rhodes, A.J., C.E. van Rooyen. *Textbook of Virology for Students and Practitioners of Medicine*, 4th ed. Baltimore: Williams & Wilkins; 1962.

Roggendorf, M., F. Heinz, F. Deinhardt, C. Kunz. Serological diagnosis of acute tick-borne encephalitis by demonstration of antibodies of the IgM class. *J Med Virol* 7:41–50, 1981.

Varma, M.G.R. Tick-borne diseases. *In:* World Health Organization (WHO). World Health Organization, Vector Biology and Control Division. *Geographical Distribution of Arthropod-borne Diseases and their Principal Vectors.* Geneva: WHO; 1989. (WHO/VBC/89.967)

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## SINDBIS FEVER

ICD-10 A92.8

**ICD-10 A92.8 Other specified mosquito-borne viral fevers**

Ockelbo … Karelian …

… *Alphavirus* … Togaviridae … (Lundstrom *et al.,* 1993) …

[illegible] 30 [illegible]

[illegible] 1961 [illegible] 5 [illegible] %20 [illegible] (Niklasson, 1988) [illegible] (Guard *et al.*, 1982) [illegible] 4 [illegible]

[illegible] Mayaro [illegible] Chikungunya [illegible] (Tesh, 1982) [illegible] Ross River [illegible] O'nyong-nyong [illegible] Barmah [illegible]

[illegible]

[illegible] ornithophilous [illegible]

[illegible] *C. annulirostris* [illegible] *Culex univittatus* [illegible] *Culicines* [illegible] *C . pseudovishnui* [illegible]

[illegible]

[illegible]

Casals, J., D.H. Clarke. Arboviruses: Group B. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*. 4th ed. Philadelphia: Lippincott; 1965.

Guard, R.W., M.J. McAuliffe, N.D. Stallman, B.A. Bramston. Haemorrhagic manifestations with Sindbis infection. Case report. *Pathology* 14:89–90, 1982.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

Lundstrom, J.O., S. Vene, J.F. Saluzzo, B. Niklasson. Antigenic comparison of Ockelbo virus isolates from Sweden and Russia with Sindbis virus isolates from Europe, Africa, and Australia: Further evidence for variation among alphaviruses. *Am J Trop Med Hyg* 49: 531–537, 1993.

McIntosh, B.M., D.B. Dickinson, G.M. McGillivray. Ecological studies in Sindbis and West Nile viruses in South Africa. V. The response of birds to inoculation of virus. *S Afr J Med Sci* 14:77–82, 1969.

McIntosh, B.M., J.H. Gear. Mosquito-borne arboviruses, primarily in the eastern hemisphere. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*. 6th ed. Springfield, Illinois: Thomas; 1975.

Niklasson, B., A. Espmark, J.O. Lundstrom. Occurrence of arthralgia and specific IgM antibodies three to four years after Ockelbo disease. *J Infect Dis* 157:832–835, 1988.

Tesh, R.B. Arthritides caused by mosquito-borne viruses. *Annu Rev Med* 33:31–40, 1982.

# SPONGIFORM ENCEPHALOPATHIES OF ANIMALS AND MAN

## ICD-10 A81

**ICD-10 A81 Slow virus infections of the central nervous system**

Lumbar prurigo

"scrapie"

Creutzfeldt-Jakob

Kuru

1986

(Gajdusek, 1977)

astrocytosis

[illegible] vacuoles [illegible] neuropil [illegible] .(Tuler, 1991) [illegible]

[illegible] .determinant [illegible] .(Brown et al., 1991) [illegible]

[illegible] scrapie-associated fibrils [illegible] .stain [illegible]

infectious [illegible] Unconventional [illegible] .amyloidosis [illegible] .prion [illegible] slow virus degenerative

[illegible] filterable [illegible]

50 – 30 [illegible] 25 [illegible] (1 [illegible]

[illegible] "virine" [illegible] (2 [illegible]

[illegible] .(Kimberlin, 1992) [illegible]

[illegible] :"viroid [illegible]" [illegible] (3

.( [illegible] ) [illegible] 1982 [illegible] :"prion [illegible]" [illegible] (4

[illegible] proteinaceous [illegible] (PrP) [illegible] (PrPc) [illegible] .(Prusiner, 1992; Oesoh *et al.,* 1991) PrPsc [illegible]

[illegible] .(Prusiner, 1992) [illegible] [1] [illegible] .(Kimberlin, 1992)

## DISEASES OF ANIMALS [illegible]

### Scrapie [illegible] .1

enzootic ovine paraplegia [illegible]

---

1. [illegible] translation [illegible]

.Lumber Prurigo [illegible] rida [illegible]

[illegible] (Eklund and Hadlow, 1981) [illegible] .(Fernándes *et al.*, 1978) [illegible] mouflon [illegible] .(Detwiler, 1992) [illegible]
.(*Ovis musimon*) [illegible]

[illegible] Suffolk [illegible] %50 [illegible] 460 [illegible] 11 [illegible] 340 [illegible] %5 [illegible]
Hampshire [illegible] Cheviot [illegible] 9 [illegible] .(Gloyd, 1990) [illegible]
.(Eklund and Hadlow, 1981) [illegible] 50 – 30 [illegible] – [illegible]
Stamp,) [illegible] %15 [illegible] %10 [illegible]

[illegible] (1980 [illegible] 15.000 – 10.000 [illegible] 1978 [illegible] %10 [illegible] vacuolization [illegible] 15 [illegible] (Detwiler, 1992) [illegible]

[illegible] %17 [illegible] 0.31 [illegible] (Morgan and Nichols, 1991) 1988 [illegible] 0.5 [illegible] 1987

[illegible] 4 – 1 [illegible] PrP [illegible] (Aiken and Marsh, 1990) [illegible] *maladie tremblante* [illegible] prurigo [illegible]

[illegible]

[illegible] diencephalon [illegible] mesencephalon [illegible] .(Eklund and Hadlow, 1981) [illegible]

[illegible] P [illegible] .(Kimberlin, 1981) [illegible] Allele [illegible] subpopulation [illegible] (Hadlow *et al.*, 1982) [illegible] 3 – 1 [illegible] .(Kimberlin, 1981) [illegible] 6 [illegible] transfer [illegible] 6 – 5 [illegible]

[illegible] 26 [illegible] 6 [illegible]
.(Foster *et al.,* 1992)

[illegible] livestock [illegible] 4 – 2 [illegible]

Detwiler,) [illegible] .(1992 [illegible] Sigurdarson,) [illegible] .(1991 [illegible]

[illegible] 100 [illegible] 50 [illegible]
.(Stamp, 1980; Marsh, 1983) [illegible]

[illegible]

[illegible]

## 2. Transmissible Mink Encephalopathy [illegible]

[illegible] 1985 [illegible] (Marsh and [illegible] Hadlow, 1992) [illegible] 12 – 7 [illegible] (Kimberlin, 1981). [illegible]

[illegible] aggression [illegible] hyperesthesia [illegible] (Marsh and Hadlow, 1992). [illegible]

[illegible] (Marsh and Hadlow, 1992). [illegible]

**3. Chronic Wasting Disease of Deer** [illegible]

Cervidae [illegible] 1967 [illegible] (*Cervus elaphus nelsoni*, *Odocoileus hemonius hemonius*) [illegible] 4 [illegible] 60 [illegible] %90 [illegible] 1981 – 1970 [illegible] ferret [illegible] (*Mustela vison*) [illegible] (*Saimiri sciureus*) [illegible] Marsh,) *Cervus canadiensis* (wapiti [illegible] (1983 [illegible] (Bovidae [illegible] .(Williams and Young, 1992) [illegible]

**4. Bovine Spongiform Encephalopathy** [illegible]

[illegible] Mad cow [illegible]

[illegible] 1986 [illegible] 1988 [illegible] 1985 [illegible] 1989 [illegible] 1990 [illegible] 7.000 [illegible] .(WHO, 1994) [illegible] 92.000 [illegible] 1994 [illegible] 20.000

[illegible] 181.368 [illegible] 2001/10/21 [illegible] 437 [illegible] 1.890 [illegible] 178.194) [illegible] (1) [illegible] .(OIE, 2002a) [illegible] 698 [illegible] 149 [illegible] (1) [illegible] (138) [illegible] (8) [illegible] (2) [illegible] (65) [illegible] (2) [illegible] (3) [illegible] (54) [illegible] (875) [illegible] (1) [illegible] (515) [illegible] (106) [illegible] (1) [illegible] (5) [illegible] (628) [illegible] (30) [illegible] (1) [illegible] (1) [illegible] (1) [illegible] .(OIE 2002b) (413) [illegible] .(OIE, 2001c) (2) [illegible]

[illegible] .humpback [illegible] %93 [illegible]

[illegible] %95 [illegible] Kimberlin,) [illegible] 2 – 1 [illegible]

[illegible] 8 [illegible] 2.5 [illegible] (1992 [illegible]

[illegible] 10 [illegible]

[illegible] 1986 [illegible] index case [illegible] (Wilesmith *et al.*, 1988) [illegible] 1982 – 1981 [illegible] 70° [illegible] 8 [illegible] (Wilesmith, 1991; Kimberlin, 1992).

[illegible] recycling [illegible]

[illegible] 1988 1982 – 1981 [illegible] .banned [illegible]

[illegible] 1991 [illegible] enzootic [illegible] 22 [illegible] 5 [illegible] 4 [illegible] 3 [illegible] 1992 [illegible] .(WHO, 1994) [illegible] 4 [illegible] 1993 [illegible]

[illegible] WHO,) [illegible] .(1994

[illegible] enzootic [illegible] 1993 [illegible] 1990 [illegible] 250 [illegible]

[illegible] 117 [illegible] .(WHO, 1992) [illegible]

[illegible] .encephalon [illegible] obex [illegible] %90 [illegible] .(Kimberlin, 1992)

[illegible] 1991 [illegible] 3 [illegible] 26 [illegible] (1991 [illegible]) [illegible] .(WHO, 1994) [illegible]

[illegible]

## [illegible] .5
## 5. Spongiform Encephalopathies in Other Animal Species in the UK

[illegible] 21 [illegible]

[illegible] 1991 [illegible] 5 – 4 [illegible] 5 [illegible]
.(Wyatt *et al.*, 1991) [illegible] locomotor [illegible] nodding [illegible] Perikaryon [illegible] nyala [illegible] (Kudu [illegible] (*Tragelaphus strepsiceros*) [illegible]
.(Kimberlin, 1992) [illegible]

**HUMAN DISEASES** [illegible]

**1. Kuru** [illegible] **.1**

[illegible] **:ICD-10 A81.8**

**ICD-10 A81.8 Other slow virus infections of the central nervous system**

[illegible] %80 [illegible]

[illegible] Fore [illegible] – 1975 [illegible] 1957 [illegible] – [illegible] 2.500 [illegible] (Gajdusek, 1977) [illegible]

[illegible] Fore [illegible] *Kuru* [illegible] "tremor" [illegible] (Lehrich and Tyler, 1991).

[illegible] 30 [illegible] 4 [illegible] (Benenson, 1981).

[illegible] – [illegible] (Eklund and Hadlow, 1981).

[illegible] cannibalism [illegible]

Gajdusek,) [illegible] .(1977

[illegible]

[illegible]

[illegible]

**Creutzfeld-Jakop Disease** [illegible] .2

**ICD-10 A81.0**

[illegible]

[illegible] .(Chin, 2000) [illegible] 1 [illegible] 0.5 [illegible] 250 [illegible] 200 [illegible] 117 [illegible] 1993 [illegible] 1990 [illegible] 14 [illegible] 1983 [illegible] 1978 [illegible] 46 [illegible] 1978 [illegible] 178 [illegible] .(Taraturo *et al.,* 1989) 1989 [illegible] 1981 [illegible] Brown and) 1985 – 1972 [illegible] 87 [illegible] 1982 [illegible] 0.9 [illegible] (Gajdusek, 1991 [illegible] (Desgrandchamps *et al.,* 1994) [illegible] 31.3) [illegible]

.(Kahana *et al.*, 1974) [illegible]

[illegible] (Brown, 1991) [illegible] PrP [illegible] 200 codon [illegible] (Goldfarb *et al.*, 1990) 20 [illegible]
.(Brown, 1991)

[illegible] (Will *et al.*, 1996) 1996 [illegible] amyloid [illegible]
.(Hope, 1998) [illegible]

[illegible]
.(Collinge, 1996)

[illegible] 75 [illegible] 50 [illegible] 18 [illegible] 30 – 27 [illegible] dementia [illegible] 5 – 2 [illegible] .(Benenson, 1990) [illegible] %15 [illegible] .(Benenson, 1990)

[illegible] 8 [illegible] .(Cochius *et al.*, 1990) [illegible] 13 [illegible] 76 [illegible] 5.5 [illegible] .(Gibbs *et al.*,1993) [illegible] CDC,) [illegible] 8 [illegible] 30 [illegible] .(1993 [illegible]

(Gajdusek, 1997)

(Marsh, 1983)

*Saimiri*) (*sciureus*

(Gibbs *et al.,*1980)

### 3. Gerstmann-Sträussier-Scheinker Syndrome

**ICD-10 A81.8 Other slow virus infections of the central nervous system**

dementia ... 55 – 35 ... 5 – 3 ... (75 – 50) ... (0.4) ... PrP ... 102 codon ... 117 ... (Brwon *et al.*,1991)


Aiken, J.M., R.F. Marsh. The search for scrapie agent nucleic acid. *Microbiol Rev* 54:242–246, 1990.

Bendheim, P.E., R.A. Barry, S.J. DeArmond, D.P. Stites, S.B. Prusiner. Antibodies to a scrapie prion protein. *Nature* 310:418–421, 1984.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 13th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1981.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1990.

Brown, P. The clinical epidemiology of Creutzfeldt-Jakob disease in the context of bovine spongiform encephalopathy. *In*: Bradley, R., M. Savey, B. Marchant, eds. *Sub-acute Spongiform Encephalopathies. Proceedings of a Seminar in the CEC Agricultural Research Programme, held in Brussels, 12–14 November 1990*. Dordrecht: Kluwer Academic Publishers for the Commission of the European Communities; 1991.

Brown, P. L., G. Goldfarb, D.C. Gajdusek. The new biology of spongiform encephalopathy: infections amyloidoses with a genetic twist. *Lancet* 337:1019–1022, 1991.

Brown, P., D.C. Gajdusek. The human spongiform encephalopathies: Kuru, Creutzfeldt-Jakob disease, and the Gerstman-Sträussler-Schenker syndrome. *In*: Chesboro, B.W., ed. *Transmissible Spongiform Encephalopathies: Scrapie, BSE, and Related Human Disorders*. Berlin: Springer; 1991.

Cochius, J.I., R.J. Burns, P.C. Blumbergs, K. Mack, C.P. Alderman. Creutzfeldt-Jakob disease in a recipient of human pituitary-derived gonadotrophin. *Aust N Z J Med* 20:592–593, 1990.
Collinge, J., K.C. Sidle, J. Meads, J. Ironside, A.F. Hill. Molecular analysis of prion strain variation and the etiology of 'new variant' CJD. *Nature* 383:685–690, 1996.
Detwiler, L.A. Scrapie. *Rev Sci Tech* 11:491–537, 1992.
Desgrandchamps, D., H.L. Rieder, B. Marti. Incidence of Creutzfeldt-Jakob disease. *Lancet* 343:1229, 1994.
Eklund, C.M., W.J. Hadlow. Characteristics of the slow viral diseases. *In*: Beran, G.W., section ed. Section B, Vol. 1: *CRC Handbook Series in Zoonoses*, Boca Raton: CRC Press; 1981.
Fernándes, R.E., C.M. Real, J.C. Fernándes. "Scrapie" em ovinos no Rio Grande do Sul (Relato de um caso). *Arq Fac UFRGS* (Porto Alegre) 6:139–143, 1978.
Foster, J.D., W.A. McKelvey, M.J. Mylne *et al.* Studies on maternal transmission of scrapie in sheep by embryo transfer. *Vet Rec* 130:341–343, 1992.
Gajdusek, D.C. Unconventional viruses and the origin and disappearance of kuru. *Science* 197:943–960, 1977.
Gibbs, C.J., Jr., H.L. Amyx, A. Bacote, C.L. Masters, D.C. Gajdusek. Oral transmission of kuru, Creutzfeldt-Jakob disease, and scrapie to nonhuman primates. *J Infect Dis* 142:205–208, 1980.
Gibbs, C.J., Jr., D. Asher, P.W. Brown, J.E. Fradkin, D.C. Gajdusek. Creutzfeldt-Jakob disease infectivity of growth hormone derived from human pituitary glands. *N Engl J Med* 328:358–359, 1993.
Gloyd, J.S. Scrapie: Minor disease, potential major problem. *J Am Vet Med Assoc* 197:448–449, 1990.
Goldfarb, L.G., E. Mitrova, P. Brown, B.K. Toh, D.C. Gajdusek. Mutation in codon 200 of scrapie amyloid protein gene in two clusters of Creutzfeldt-Jakob disease in Slovakia. *Lancet* 336:514–515, 1990.
Hadlow, W.J., R.C. Kennedy, R.E. Race. Natural infection of Suffolk sheep with scrapie virus. *J Infect Dis* 146:657–664, 1982.
Hope, J. Prion protein-related diseases of man and animals. *In*: Palmer, S.R., Lord Soulsby, D.I.H. Simpson, eds. *Zoonoses: Biology, Clinical Practice, and Public Health Control.* Oxford; New York: Oxford University Press; 424–435, 1998.
Johnson, R.T. Slow infections of the nervous system. *In*: Wyngaarden, J.B., L.H. Smith, Jr., eds. Vol. 2: *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.
Kahana, E., M. Alter, J. Braham, D. Sofer. Creutzfeldt-Jakob disease: Focus among Libyan Jews in Israel. *Science* 183:90–91, 1974.
Kimberlin, R.H. Scrapie as a model slow virus disease: Problems, progress and diagnosis. *In*: Kurstak, E., C. Kurstak, eds. Vol. 3: *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.
Kimberlin, R.H. Bovine spongiform encephalopathy. *Rev Sci Tech* 11:347–489, 1992.
Kirkwood, J.K., G.A. Wells, A.A. Cunningham, *et al.* Scrapie-like encephalopathy in a greater kudu (*Tragelaphus strepsiceros*) which had not been fed ruminant-derived protein. *Vet Rec* 130:365–367, 1992.
Lehrich, J.R., K.L. Tyler. Slow infections of the central nervous system. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.
Marsh, R.F. Animal models of unconventional slow virus infections. *ILAR News* 26:19–22, 1983.
Marsh, R.F., W.J. Hadlow. Transmissible mink encephalopathy. *Rev Sci Tech* 11:539–550, 1992.
Morgan, K.L., K. Nichols. The prevalence of scrapie in dairy sheep flocks in U.K. *Sheep Dairy News* 7(3):39–40, 1990/1991. *Abst Vet Bull* 61(8):5608, 1991.
Oesch, B., D. Westway, B. Prusiner. *In*: Chesebro, B.W., ed. *Transmissible Spongiform Encephalopathies: Scrapie, BSE, and Related Human Disorders*. Berlin: Springer; 1991.

Prusiner, S.B. Novel proteinaceous infectious particles cause scrapie. *Science* 216:136–144, 1982.

Prusiner, S.B. Molecular biology and genetics of neurodegenerative diseases caused by prions [review]. *Adv Virus Res* 41:241–273, 1992.

Rohwer, R.G. Scrapie infectious agent is virus-like in size and susceptibility to inactivation. *Nature* 308:658–662, 1984.

Sigurdarson, S. Epidemiology of scrapie in Iceland and experience with control measures. *In*: Bradley, R., M. Savey, B. Marchant, eds. *Sub-acute Spongiform Encephalopathies. Proceedings of a Seminar in the CEC Agricultural Research Programme, held in Brussels, 12–14 November 1990*. Dordrecht: Kluwer Academic Publishers for the Commission of the European Communities; 1991.

Stamp, J.T. Slow virus infections of the nervous system of sheep. *Vet Rec* 107:529–530, 1980.

Taratuto, A.L., P. Piccardo, R. Leiguarda, *et al.* Creutzfeldt-Jakob disease. Report of 10 neuropathologically-verified cases in Argentina. *Medicina (B Aires)* 49:293–303, 1989.

Tyler, K.L. Prions. *In*: Mandell, G.L., R.G. Douglas, Jr., J.E. Bennett, eds. *Principles and Practice of Infectious Diseases*, 3rd ed. New York: Churchill Livingstone, Inc.; 1990.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Creutzfeldt-Jakob disease in patients who received a cadaveric dura mater graft—Spain, 1985–1992. *MMWR Morb Mortal Wkly Rep* 42:560–563, 1993.

Veterinary Record (London). BSE found in calf born after start of feed ban. *Vet Rec* 128:314, 1991.

Wilesmith, J.W., G.A. Wells, M.P. Cranwell, J.B. Ryan. Bovine spongiform encephalopathy: Epidemiological studies. *Vet Rec* 123:638–644, 1988.

Wilesmith, J.W., G.A. Wells. Bovine spongiform encephalopathy. *In*: Chesebro, B.W., ed. *Transmissible Spongiform Encephalopathies: Scrapie, BSE, and Related Human Disorders*. Berlin: Springer; 1991.

Will, R.G., J.W. Ironside, M. Zeidler, *et al.* A new variant of Creutzfeldt-Jacob disease in the UK. *Lancet* 347:921–925, 1996.

Williams, E.S., S. Young. Chronic wasting disease of captive mule deer: A spongiform encephalopathy. *J Wildl Dis* 16:89–98, 1980.

Williams, E.S., S. Young. Spongiform encephalopathies in Cervidae. *Rev Sci Tech* 11:551–567, 1992.

World Health Organization (WHO). Questions de santé publique liées aux encephalopathies spongiformes chez l'animal et chez l'homme: Memorandum d'une réunion de l'OMS. *Bull World Health Organ* 70:573–582, 1992.

World Health Organization (WHO). L'encephalopathie spongiforme bovine au Royaume-Uni: Memorandum d'une réunion de l'OMS. *Bull World Health Organ* 72:23–27, 1994.

World Organization for Animal Health (OIE). Number of cases of bovine spongiform encephalopathy (BSE) reported in the United Kingdom. As of 11 March 2001. Available at www.oie.int/eng/info/en_esbru.htm. 2001a.

World Organization for Animal Health (OIE). Number of reported cases of bovine spongiform encephalopathy (BSE) worldwide (excluding the United Kingdom). As of 11 March 2001. Available at www.oie.int/eng/info/en_esbmonde.htm. 2001b.

World Organization for Animal Health (OIE). Countries/territories having reported cases of bovine spongiform encephalopathy (BSE) in imported animals only. As of 5 February 2001. Available at www.oie.int/eng/info/en_esbimport.htm. 2001c.

Wyatt, J.M., G.R. Pearson, T.N. Smerdon, *et al.* Naturally occurring scrapie-like spongiform encephalopathy in five domestic cats. *Vet Rec* 129:233–236, 1991.

# ST. LOUIS ENCEPHALITIS [illegible]

## A83.3 ICD-10

[illegible]

[illegible] Flavivirus [illegible] [1] [illegible]

[illegible] [3] [illegible] (Bowen *et al.*,1980) [illegible] (Monath *et al.* ,1980) [illegible] mapping (Trent *et al.*,1981) topotypes [illegible]

[illegible]

[illegible] (Monath, 1979) [illegible] 25 [illegible] (Spence, 1980) [illegible] 1953 [illegible]

---

[1] [illegible]

.(Monath, 1979)

1933

CDC,) 1.000 500

35 1976 – 1975 .(1993

.1974 2.194

1990 .1978 26 1977 132

.(Day, 2001) 11 226 1991

70 2001

.(Jones *et al.*, 2002) 3

19 1974

.%20 51 100.000

22 1975

1962

109.6 1962 100.000 4.291

1964 100.000

%8

.%34

85:1 9 800:1

.(Monath, 1982) 60

.(Monath, 1979)

%50 %3 3 %66 %33
(Sabattini *et al.*,1985).

(Walton, 1992).

aseptic
(Brinker and Monath, 1980).
60 %87 %56 1991 5 28 (Bleed *et al.*,1992) (Marfin *et al.*, 1993).
21 4

2.261 %10 %5

50 .1968 1955

.(Luby *et al.*, 1969) %30

65 (36.3)

1962

%9.8 %22

.(Bond *et al.*,1965)

(27

*Culex salinarius* .ornithophilic

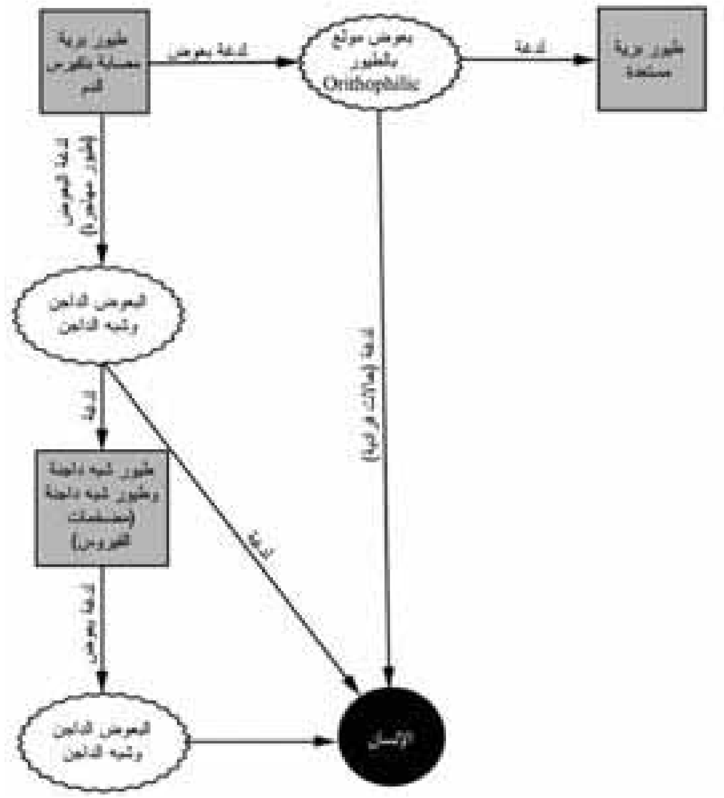
.enzootic

*C. tarsalis*

[illegible] (flood [illegible]
C. quin- [illegible] C. pipiens [illegible] quefasciatus [illegible] 1964 [illegible] %20 [illegible] (Passer domesticus) [illegible] 363 [illegible] 11 [illegible] %25 [illegible] 33 [illegible] 25 [illegible] (Turdus migratorius) [illegible] (Passer domesticus) [illegible] (McLean *et al.*,1993) [illegible]

[illegible] 1962 [illegible] C. nigripalgus [illegible]

·ĠŸȶǪ∓ä āşǨİöä ĞǑŸǵ – ÈΛζö ǨφİÊöä ȟİηǼöä āİȚǪöä ·27 ǑȮÎöä




·Ȯõ ʔŸȝ · ôζȞĠöä ȸη ǥǼΛǼȝ ţäζφİ ȸη āşǨİöä åÀİǪèä ·ĠȜäζΛƨäş ʔÛèζöä İȮΛÀηİ Ž ĞȒȝİĠöä ǼDZζǩ ·ȴȄǑǩ ȝȑζη (ȮęİΛõ İȚǪȄƵİ) Ȯęäζİõ ĞÀŸǪÅţä ţäζφɊö ĞȄĠÊΛöä ĞȄƵɉä ʔǑĠǩ ÈΛζö ǨφİÊöä ȟİηǼöä āİȚǪöä āşǨİö ȯİȞζ ȮęİΦ ȞȽ Ȟøǫöäş – ȓζÛʅä ĞȄèİȶʅä ĞÔæİΛöä åÀİǪèä ·İȮΛÀηİş ȞøĠΛøİȮöä ĞǑÛİη Ž ǼDZζǩ – ǥǼȞǪţä ǧİΛɍζöä Ž ȞøĠȄÊȄÊţä ÀŒ ȧÀì ȞøǼǪDZǼøİ ôζȞĠö ȷİõ ·ƙǪDZǼøɉä Ž İǪφİè ȴŸęİ Ž ôζȞĠöä ȸη ţζΛöä äǾȽ ȸη āşǨİöä āşǨİöİæ ȀΛζȶζ ʔǼȞİηş ǥǼȞǪţä ǧİΛɍζöİæ ǧäǮǪƯ Ž ǼöζǪÊη Ûţζİöä ÈΛφ ȸη ôζȞæ ǑȞΛΛ İȶŸȝη ǯİDZǼŸö ʔşǼȞöä ǑǑΛΛş ǨΛǼȞΛη ǴĠÔΛ ȷİ ʔŸȝ ǥøǼǑöä ÈΛφ ÛȞøǼǪDZǼøɉä ĠΛøØöä ÀȚȚǩ ɍ ·ǥǼȞǪţä ǧİΛɍζöä Ž ÌȄȞΛ ȸØöä ȓζÛʅä *ĠȄèİȶʅä ĞÔæİΛöä ĞȒȝİĠöä*

ɁŸɜ ÅőǿÆę Ò϶ ÅŧƐʐ ǦƐȮÄÄŋǰä ɃǿäǿØöä ɜŋ ǦφǿȦȬŋ ȢΫϘǹä ɃǗ âşĶȦöä ȸŋ ǦƐÆϘǄƵǿǰä .(Mitchell *et al.,*1980) ÅƬŸǦę ȸŋ ȬȫÅł ȷǗ şǗ ôʐȞǦöä ȸŋ ţäʐφǰä ȻǾŁ ʔşÉɜ ȄÅʐö ǨφȦȆöä ȟÅŋÆöä āÅƬϘöä ǦÄæşǗ ȷǓ ·ǦŸəȦȬöä ǦȬȫȬΣä ƘȄÅϘö ǧÅÅȚφ ǥÉɜ Ǩŋæę ·ǦȞÅȬŋ ǦÄȚφ ÆǄʐǨ ɫ ȸȮö ȖǦƐæʐɅɛä şǗ ɁȖèʐöä ÅȮÄÄŋǗ şǗ ɄøǦÄǿȦȮöä ǦȬȖÅŋ Ž ϙÆƠ ɫ Ǧɜʐ ȦöäǦƐöÅɜ ÅŒüæ ǨȦöş ǦƐæʐɅɛäş ɁȖèʐöä ÅȮÄÄŋǗ Ž ǦƐèşǨʐ Ƀǿäǿæ ǥÉɜ ǧåÄÄϘèä ȯÅȞʐ ȬęÅφ ȓʐȖʅä ǦƐèÅŧʅä ǦȒɜÅǦöä ţʐφ ȷǓ Ȭ̄öæ ȸŋ ÅǯȭǗ Ȭæ .(Monath *et al.,*1980) ǦɜʐȦöä ǿÅǦϘɜä ȸȮ϶ ɫ ·Ȭ̄öǿöş Ȗ(Mitchell *et al.,*1980) ȷÅȆφɋä ǦƤÅƬţ ȬƐŋ ¢ÆÉöş ȸŋ ÆÆÉȞöä ǳÅϘęä ·ǦÄæşǰä āÅƐȡ ȸɜ ȵɫşüȆŋ ȬęÅÅöä (ǥǒÅÅō) ǦƐöÅȞʐ ȳÉɜ şǗ âşĶÅŸö ǦȒÅǺÅţä Æę ǦƐæʐɅɛäş ɁȖèʐöä ÅȮÄÄŋǗş ɄøǦÄǿȦȮöä ǦȬȖÅŋ Ž ǦÄÄȊǦöä ÄŁÅŧɛä ȷʐȮǨ ȷǗ Ƙǯǧ̄ÅǦöä åäÆȑǰä ǿÅȊϘφä ·(ÄŧȞöä ɜŋ) ƘÅȆöä ǿşÄŋ ɜŋ ɁŋÅÅϘǨ Ǧɜ ÅÅţä ȻǾŁ ȷǗş ȖǜÅȮǦŋ Ǧɜ ÅÅţä ǨǦȆϘōä ȸÅǾöäş ¯ ƎōǰäǦÄÄŧȞöä ǧÅɜʐŧȮöä Ž ǦɜÅÅţä ȷʐȮǨ ȷǗ ȸȮŧţä ȸŋş Ȗɜ ÅǨÄŋ ÄŁÅŧɛä ȻǾŁ Ž Mitchell *et al.,*) ǦÄæşǰä ɜÅŋ Ž Æɜ ÅȆÅ ǳŸŋÅɜ ¯ ǺÅÄÄè ÄŁÅȚϘǨ ȷǰ ȴƬʐ ʔşÉȞöä ţÂǿǨ ȔƐǦǯǨ ǿÅǦϘǹä ȳÆÅϘèÅæ ɄøæÅƶǗ ȬȮȊæ ǦÅƎöä ǿʐƐȖöä ȸŋ %ɜ ȬɜÅǨ ·ƘϘǄǿǰä Ž ·(1980 ƘϘǄǿǰä Ž ǦÄÅæ ô ǿäʐę ȸŋ ƗȒÅǗ âşĶȦöä åÄÄϘèä ·ǦÅƎöä ǿʐƐȖŸö ǦȆŋ Ž Ƀʐŋ ÆȞöä ȋ äÅϘöä ǦȬŸǧ ȷüæ Ʉǧʐ Åư Ȗ(Sabattini, 1985; de Souza Lopes *et al.,* 1979) ƗȒÅǗ ȬÄäƎöä Žş *ǦϘæȦȬöş* Ȗ*Mansonia* *ǦǿʐȆÅţä* Ȭǯŋ ôʐȞǦæş ǦÅƎöä ôǿäʐȬöä Ƙæ (ÆŸơ) ǧÆϘȆǨ Æę ǥÅƐΣä (1985) ȳÅɜ ɄøÆƐÅæȄè ŞǥɫǦ ·ȷäÆŸǦöä ȻǾŁ Ž *ǦȒɜÅǦöä*ş *Wyeomyia* *ǦŋʐϚʐǿä*ş Ȗ*Sabethes* *Mus*) ƂÂǿÅţä ǿüÅöäş *Calomys* *âʐŧȞȫȬ* ţʐφ ȸŋ ƘϘǄǿǰä Ž ǥäÅÄϘȆţä Ƀǿäǿöä ȷǗ ȳå âĶÅȞ ǨϘÉǥǗ ÅŒǗş Ȗâʐ̉ȄÄÄöä ȄƐφȦȆö şǗ ȷäÅÅŸö Ǧɜʐ ȦöäǥÉÅƐÌ ȸȮȞ Ȝ (*musculus* ǧäÅŧţä ȻǾŁ Éɜ ÅȄȞ Æę · ôʐȞǦŸö öäÉɜǗ ȬęǗ ǨφȦō ÅŒǗ ɁøϘǥ ȖǿʐȦȬȞöä Ž ǿÅŋȞöä ȒÅÅÅŋ ǧÅƐÆǯöä ȒȞæ ȷǗ ƗǦÄÄθ ǨǦϘ Æȫö ·Ȭ̄ō ɁŸɜ ·ǦÄÄÎǦöä ǧɫÅȞŸö ɄøǦȄÅöä āÅƐ8öä ƘȄÅȞ Ž ɜÅȞÄŋ ǿÅƐȞæ ȳå âĶÅȞ ÅƬȞÉö ÄƬȚÄ Æę (ǧÅƐæÅǄʐȄȄöä ǦŸƐȬʐş ǧÅÅåÅÉȫöä ǦŸƐȬʐ) ôǿäʐȫöä Ȭǯŋ .(McLean *et al.,*1985) ôʐȞǦöä ȯäÉɜϙ ɄȦȮÄ

ȷǗ ƂǗ ƘÎÅ äǿŁş ȖöÅϘʅϙä ǿʐü Ž *ǦȬŧÅÅȫä ǦȒɜÅǦöä* ȸŋ Ǧ8öÅæ ɁǯφǗ ȸŋ ôʐȞǦöä åÄÄϘèä .(Bailey *et al.,*1978) ǦöÆϘȞţä ǧÅǹÅţä Ž ȬęÅÅöä Ȭǹäå ȯÅϘÎöä ɄȒ϶ ȷǗ ¢ȦȮ϶ âşĶȦöä

Francy *et al.*,) [illegible] (1981 .(Shroyer, 1990) [illegible]

[illegible] .(Hardy *et al.*,1984) [illegible] *C. salinarius* [illegible] .*Aedes taeniorhynchus* [illegible] .(Nayac *et al.*,1986) [illegible]

[illegible] .(Monath *et al.*,1980) [illegible] sloth [illegible] .epizootic [illegible] .(Herbold *et al.*,1983) [illegible]

[illegible] (Chin, 2000) [illegible] (Tsai *et al.*,1987) .(Oprandy *et al.*,1988) Sentinel [illegible]

[illegible]

[illegible]

Allen, R., S.K. Taylor, S.E. Sulkin. Studies of arthropod-borne virus infections in Chiroptera. 8. Evidence of natural St. Louis encephalitis virus infection in bats. *Am J Trop Med Hyg* 19:851–859, 1970.

Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Bailey, C.L., B.F. Eldridge, D.E. Hayes, D.M. Watts, R.F. Tammariello, J.M. Dalrymple. Isolation of St. Louis encephalitis virus from overwintering *Culex pipiens* mosquitoes. *Science* 199:1346–1349, 1978.

Bleed, D.M., A.A. Marfin, N. Karabatsos, *et al.* St. Louis encephalitis in Arkansas. *J Ark Med Soc* 89:127–130, 1992.

Bond, J.O., D.T. Quick, J.J. Witte, H.C. Oard. The 1962 epidemic of St. Louis encephalitis in Florida. I. Epidemiologic observations. *Am J Epidemiol* 81:392–404, 1965.

Bowen, G.S., T.P. Monath, G.E. Kemp, J.H. Kerschner, L.J. Kirk. Geographic variation among St. Louis encephalitis virus strains in the viremic responses of avian hosts. *Am J Trop Med Hyg* 29:1411–1419, 1980.

Brinker, K.R., T.P. Monath. The acute disease. *In:* Monath, T.P., ed. *St. Louis Encephalitis*. Washington, D.C.: American Public Health Association; 1980.

Clarke, D.H., J. Casals. Arboviruses: Group B. *In:* Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Chamberlain, R.W. Arbovirus infections of North America. *In:*: Sanders, M., M. Schaeffer, eds. *Viruses Affecting Man and Animals*. St. Louis: Green; 1971.

Chin, J.C., ed. *Control of Communicable Diseases in Man*, 17th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 2000.

Downs, W.G. Arboviruses. *In:* Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Fox, J.P. St. Louis encephalitis. *In:* Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

Francy, D.B., W.A. Rush, M. Montoya, D.S. Inglish, R.A. Bolin. Transovarial transmission of St. Louis encephalitis virus by *Culex pipiens* complex mosquitoes. *Am J Trop Med Hyg* 30:699–705, 1981.

Hardy, J.L., L. Rosen, W.C. Reeves, R.P. Scrivani, S.B Presser. Experimental transovarial transmission of St. Louis encephalitis virus by *Culex* and *Aedes* mosquitoes. *Am J Trop Med Hyg* 33:166–175, 1984.

Herbold, J.R., W.P. Heuschele, R.L. Berry, M.A. Parsons. Reservoir of St. Louis encephalitis virus in Ohio bats. *Am J Vet Res* 44:1889–1893, 1983.

Jones, S.C., J. Morris, G. Hill, M. Alderman, R.C. Ratard. St. Louis encephalitis outbreak in Louisiana in 2001. *J La State Med Soc* 154(6):303–306, 2002.

Luby, J.P., S.E. Sulkin, J.P. Sanford. The epidemiology of St. Louis encephalitis: A review. *Annu Rev Med* 20:329–350, 1969.

Marfin, A.A., D.M. Bleed, J.P. Lofgren, *et al.* Epidemiologic aspects of a St. Louis encephalitis epidemic in Jefferson County, Arkansas, 1991. *Am J Trop Med Hyg* 49:30–37, 1993.

McLean, R.G., D.B. Francy, E.G. Campos. Experimental studies of St. Louis encephalitis virus in vertebrates. *J Wildl Dis* 21:85–93, 1985.

McLean, R.G., L.J. Kirk, R.B. Shriner, M. Townsend. Avian hosts of St. Louis encephalitis virus in Pine Bluff, Arkansas. *Am J Trop Med Hyg* 49:46–52, 1993.

Mitchell, C.J., T.P. Monath, M.S. Sabattini. Transmission of St. Louis encephalitis virus from Argentina by mosquitoes of the *Culex pipiens* (Diptera: Culicidae) complex. *J Med Entomol* 17:282–285, 1980.

Monath, T.P. Arthropod-borne encephalitides in the Americas. *Bull World Health Organ* 57:513–533, 1979.

Monath, T.P. Arthropod-borne viral encephalitides. *In:* Wyngaarden, J.B., L.H. Smith, Jr., eds. Vol. 2: *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

Monath, T.P., C.B. Cropp, G.S. Bowen, G.E. Kemp, C.J. Mitchell, J.J. Gardner. Variation in virulence for mice and rhesus monkeys among St. Louis encephalitis virus strains of different origin. *Am J Trop Med Hyg* 29:948–962, 1980.

Nayac, J.K., L. Rosen, J.W. Knight. Experimental vertical transmission of Saint Louis encephalitis virus by Florida mosquitoes. *Am J Trop Med Hyg* 35:1296–1301, 1986.

Oprandy, J.J., J.G. Olson, T.W. Scott. A rapid dot immunoassay for detection of serum antibodies to eastern equine encephalomyelitis and St. Louis encephalitis viruses in sentinel chickens. *Am J Trop Med Hyg* 38:181–186, 1988.

Philips, C.A., J.L. Melnick. Urban epidemic encephalitis in Houston caused by a group B arbovirus (SLE). *Progr Med Virol* 9:159–175, 1967.

Quick, D.T., R.E. Serfling, I.L. Sherman, H.L. Casey. The 1962 epidemic of St. Louis encephalitis in Florida. III. A survey for inapparent infections in an epidemic area. *Am J Epidemiol* 81:415–427, 1965.

Sabattini, M.S., T.P. Monath, C. Mitchell, *et al.* Arbovirus investigation in Argentina, 1977–1980. I. Historical aspects and description of study sites. *Am J Trop Med Hyg* 34:937–944, 1985.

Shroyer, D.A. Venereal transmission of St. Louis encephalitis virus by *Culex quinquefasciatus* males (Diptera: Culicidae). *J Med Entomol* 27:334–337, 1990.

de Souza Lopes, O., L. de Abreu Sacchetta, T.L. Coimbra, L.E. Pereira. Isolation of St. Louis encephalitis virus in South Brazil. *Am J Trop Med Hyg* 28:583–585, 1979.

Spence, L.P. St. Louis encephalitis in tropical America. *In:* Monath, T.P., ed. *St. Louis Encephalitis*. Washington, D.C.: American Public Health Association; 1980.

Trent, D.W., J.A. Grant, A.V. Vorndam, T.P. Monath. Genetic heterogeneity among St. Louis encephalitis virus isolates of different geographic origin. *Virology* 114:319–332, 1981.

Tsai, T.F., R.A. Bolin, M. Montoya, *et al.* Detection of St. Louis encephalitis virus antigen in mosquitoes by capture enzyme immunoassay. *J Clin Microbiol* 25:370–376, 1987.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral infections in the United States, 1975. *MMWR Morb Mortal Wkly Rep* 25:116, 1976.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral diseases, United States, 1992. *MMWR Morb Mortal Wkly Rep* 42:467–468, 1993.

Walton, T.E. Arboviral encephalomyelitides of livestock in the western hemisphere. *J Am Vet Med Assoc* 200:1385–1389, 1992.

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## SWINE VESICULAR DISEASE ăβĭŖøǳƢǁɛ Ĭ‡TĭǋƟǁɛ ƀɛƣǁɛ

ƣ‡Ɯǁɛ Ĭʒ ꞁƑʒƇƓ ŖĭǱĦ ǌβƢȼ ƕĭYǋǆ ƕĭƨǋβĭʒ ǌǋɛƣY **ICD-10 B 08.8**

**ICD-10 B 08.8 Other specified viral infections characterized** ƕĭƯƑƢǱǁɛ ƕĭꞁƷŬɛǋ
**by skin and mucous membrane lesions**

ÛȧȦÛöä åÀȦŋ ƙŎä ɃşȦφø âşƘʐş ʐŁş ÛɃÀΛÂøȦʅä ɄŸÔΛʐΣä ŏäǼöä âşƘʐ ⁝ğȦǤǤÊöä

Enterovirus 28 [1] B5
PH
6
desiccation 22 – 18
400
(Loxam and Hedger, 1983) 780

1966
5 episode
1972
1973 – 1972
aseptic
1992
1992 3 1975
1992 1979

[1] 6 B

1980 … 3 …
(1982 … 14 … 1981 … 12 … 1980 … 60) … 1982 …
Loxam and) (…) … (1982 … 8 … 1981 … 5 … 1980 … 29)
… (Hedger, 1983; Knowles, 2003
… 1972 …
… (OIE, 2003; Escribano-Romero *et al.*, 2000) …
… 1999 …
(OIE, 2003) …

… B5 …
… B5 … antiserum …
… B5 …

… 7 – 3 …

[illegible] (Loxam and Hedger, 1983) [illegible] 3 – 2 [illegible] °41 [illegible] coronary band [illegible] (dewclaw [illegible]) [illegible] %5 [illegible] snout [illegible] %10 [illegible] circling [illegible]

[illegible]

[illegible] livestock [illegible]

[illegible] Mann) [illegible] .(and Hunchings, 1980 [illegible] rigor [illegible] .(Mann, 1981) ([illegible]) mortis [illegible] livestock [illegible] .(Fenner *et al.*,1993) [illegible]

[illegible] B5 [illegible]

[illegible]

[illegible] $^{3-1}$ [illegible] BHK-21 [illegible] 1B-RS-2 [illegible] (OIE, 2000) [illegible]

[illegible] (OIE, 2000) [illegible]

[illegible]

Brown, F., P. Talbot, R. Burrows. Antigenic difference between isolates of swine vesicular disease virus and their relationship to Coxsackie B5 virus. *Nature* 245:315–316, 1973.

Brown, F., D. Goodridge, R. Burrows. Infection of man by swine vesicular virus. *J Comp Pathol* 86:409–414, 1976.

De Simone, F., G.F. Panina, E. Lodetti. Diagnosi sierologica della malattia vescicolare dei suini da enterovirus. *Vet Ital* 25:218–228, 1974.

Dhennine, L., L. Dhennine. La maladie vesiculeuse du porc. *Bull Acad Vet Fr* 46:47–51, 1973.
Escribano-Romero E., M.A. Jiménez-Clavero, V. Ley. Swine vesicular disease virus. Pathology of the disease and molecular characteristics of the virion. *Anim Health Res Rev* 1(2):119–126, 2000.
Fenner, F.J., E. Poul, J. Gibbs, F.A. Murphy, R. Rott, M.J. Studdert, D.O. White. *Veterinary Virology*, 2nd ed. San Diego: Academic Press; 1993.
Food and Agriculture Organization (FAO), International Office of Epizootics (OIE), World Health Organization (WHO). *Animal Health Yearbook*. Rome: FAO; 1992.
Graves, J.H. Serological relationship of swine vesicular disease virus and Coxsackie B5 virus. *Nature* 245:314–315, 1973.
House, J.A., C.A. House. Vesicular diseases. *In*: Leeman, A.D., B.E. Straw, W.L. Mengeling, S. D'Allaire, D.J. Taylor, eds. *Diseases of Swine*, 7th ed. Ames: Iowa State University Press; 1992.
Knowles, N.J. Worldwide occurrence of swine vesicular disease. [Table.] Institute for Animal Health Website, Pirbright, England. Updated 12 January 2003. Available at www.iah.bbsrc.ac.uk/virus/picornaviridae/enterovirus/svd/svdv_occurrence.htm. Accessed 20 February 2003.
Knowles, N.J., L.S. Buckley, H.G. Pereira. Classification of porcine enteroviruses by antigenic analysis and cytopathic effects in tissue culture: Description of three new serotypes. *Arch Virol* 62:201–208, 1979.
Loxam, J.G., R.S. Hedger. Enfermedad vesicular del cerdo: síntomas, diagnóstico, epidemiología y control. *Rev Sci Tech* 2:41–55, 1983.
Mann, J.A. Swine vesicular disease. *In*: Gibbs, E.P.J., ed. Vol. 2: *Virus Diseases of Food Animals: A World Geography of Epidemiology and Control*. London, New York: Academic Press; 1981.
Mann, J.A., G.H. Hutchings. Swine vesicular disease: Pathways of infection. *J Hyg (Lond)* 84:355–363, 1980.
Mowat, G.N., J.H. Darbyshire, J.F. Huntley. Differentiation of a vesicular disease of pigs in Hong Kong from foot-and-mouth disease. *Vet Rec* 90:618–621, 1972.
Nardelli, L. Malattia vescicolare dei suini (da enterovirus). *Sel Vet* 14:105–113, 1973.
Nobuto, K. The first case of swine vesicular disease in Japan. *Bull Off Int Epiz* 82:561–566, 1974.
International Office of Epizootics (OIE). *Manual of Standards for Diagnostic Tests and Vaccines*, 4th ed. Paris: OIE; 2000. Available at www.oie.int/eng/normes/mmanual. Accessed 20 February 2003.
International Office of Epizootics (OIE). Handistatus II. Available at www.oie.int/hs2/info.asp. Accessed 20 February 2003.
Pohlenz, J., D.M. Williams, H. Keller. Die Vesikularkranheit des Schweines bei ihrem Auftreten in der Schweiz. *Schweiz Arch Tierheilkd* 116:413–422, 1974.
Saurat, P., J.P. Ganiere. La maladie vesiculeuse des suides. *Rev Med Vet* 126:1487–1506, 1975.
Sellers, R.F., K.A. Herniman. The airborne excretion by pigs of swine vesicular disease virus. *J Hyg (Lond)* 72:61–65, 1974.
S.V.D. Fewer outbreaks. *Vet Rec* 97:42, 1975.
Swine vesicular disease. *Vet Rec* 92:234–235, 1973.
Terpstra, C. Vesiculaire varkensziekte in Nederland. [Swine vesicular disease in the Netherlands]. *Tijdschr Diergeneeskd* 117:623–626, 1992.

# VACCINIA VIRUS INFECTIONS [illegible]

**[illegible] ICD-10 B08.0**
**ICD-10 B08.0 Other orthopoxvirus infections**

.*Poxvirus officinalis* [illegible] (Vaccinia [illegible]

[illegible] (orthopoxvirus [illegible] whitepox [illegible] (smallpox [illegible] .mousepox [illegible]

[illegible] 100 .1980 [illegible] 1977 [illegible] 2003 [illegible] exfoliative [illegible]

[illegible]

[illegible] 1975 [illegible] 1907 [illegible] 12 [illegible] 85 [illegible] %11 [illegible] 1931 [illegible] 8 [illegible] 3 [illegible] 27 [illegible] 5 [illegible] 1981 [illegible] 1968 [illegible] 10 [illegible] 935.3 [illegible] .(Cono *et al.*,2003) [illegible] 1.5 [illegible] 52.3 [illegible] 19 [illegible] (%52 [illegible]) [illegible] 36 [illegible] 12 [illegible] (%28 [illegible]) [illegible] 1959 [illegible] eczema vaccinatum [illegible] .(Cono *et al.*, 2003 [illegible] Lane *et al.*,1970) 1968 [illegible]

[illegible]

[illegible]

[illegible] 4 – 3 [illegible] .(CDC, 2003) [illegible] 3 – 2 [illegible]

[illegible] inadvertent [illegible] .(Cono *et al.*, 2003) [illegible] 9 – 6 [illegible] .(Cono *et al.*, 2003; CDC, 2003) [illegible] .(Cono *et al.*, 2003) [illegible] .(Cono *et al.*, 2003) [illegible] 12 [illegible]

[illegible] .(CDC, 2003) [illegible]

[illegible] 7 – 2 [illegible] .umbilication [illegible] 14 – 10 [illegible]

[illegible]

[illegible] fomites [illegible] .(CDC, 2003) [illegible] 23 [illegible] 5 [illegible] .(Sepkowitz, 2003) [illegible]

chorioallamtoic

serially

(CDC, 2003)

Bruner, D.W., J.H. Gillespie. *Hagan's Infectious Diseases of Domestic Animals, with Special Reference to Etiology, Diagnosis, and Biologic Therapy*, 6th ed. Ithaca: Comstock; 1973.

Cono, J., C. G. Casey, D.M. Bell. Smallpox vaccination and adverse reactions. Guidance for clinicians. *MMWR Morb Mortal Wkly Rep* 52(RR-4)1–28, 2003.

Dekking, F. Cowpox and vaccinia. *In*: van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Downie, A.W. Poxvirus group. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Lane, J.M., F.L. Ruben, E. Abrutyn, J.D. Millar. Deaths attributable to smallpox vaccination, 1959 to 1966, and 1968. *JAMA* 212:441–444, 1970.

Lum, G.S., F. Soriano, A. Trejos, J. Llerena. Vaccinia epidemic and epizootic in El Salvador. *Am J Trop Med Hyg* 16:332–338, 1967.

Neff, J.M., J.M. Lane, V.A. Fulginiti, D.A. Henderson. Contact vaccinia—transmission of vaccinia from smallpox vaccination. *JAMA* 288(15):1901–1905, 2002.
Sepkowitz, K.A. How contagious is vaccinia? *N Engl J Med* 348(5):439–446, 2003.
United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Public health and emergency response: Smallpox. Available at www.bt.cdc.gov/agent/smallpox/index.asp. Accessed 24 February 2003.

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## ǏǂǐƢǁǁƐ ǏǂǐǋƦøǅǁƐ ƵǷƊǅƢǁƐ ƒǷǊǂǁƐ
## VENEZUELAN EQUINE ENCEPHALITIS

### ƕǐǂǐƢǁǁƐ ƕǐǂǐǋƦøǅǁƐ ǍƊǅƟǁƐ ICD-10 A92.2
### ICD-10 A92.2 Venezuelan equine fever

·ƱǛƛşÂøÀÀöä ȟÀŋÆöä āÀƬǪöä ÛƱǛƐƖä ƱǛƛşÂøÀÀöä ţÀÅÀöäş ȟÀŋÆöä āÀƬǪöä ·ğÀƺåäÀƫä

БǗ ƱƭǪÀÀ ÛƙǑä ƁşÀφø âşƘƺ ÛƱǛƐƖä ƱǛƛşÂÀÀöä ȟÀŋÆöä āÀƬǪöä âşƘƺ ·ğÀƐǤǤÊöä Û(ÀÕöÀè [A] Ǧ3ƺƭǑä ȡŋ ğÀƐǛÔÀƫÀǽ ǦöƺǑÀƫä ǴèşƘÀöä) *Alphavirus ǴÀşÀÀöƭä ǴèşƘÀöä* ÈÀǱǲ ǴƐǝÀǽş ǴƐƵǗ ğäǽ ǦÀǛǪƯ ǴÀÆȒǪÊŋ āşÀȓ åƺǱşǤƺÀȞŋ ȷǗ ·ǴƐǝÀÅÛöä ğÀèşƘÀöä ǴǛƐÔƺ ƱõÀΣä Ƀƺŋ̈Æöä îäÀǪöä ȔƐǤǯ øÀǤǪǹä ĘƐǤÛǪǽ ÆÕȞƫä äØȽ ğÀèşƘƺ ƵƐÀÔǨ øƺü ·ǥƘǤõ ÆÕȞȽǛö ·(Young and Johnson, 1969) ǦÀǛǪƯ ĘüÀÀŋ ȡŋ ɃøäøǾöä ȡŋ åÆ3 ʔǛ3 kinetic (1977) ɃÆǕş ŋÀöøÀǲǲ ǨǤǪǗ ·ǴÀÆȒǪÊŋ āşÀȓ 6 ȻøşÆǽ [I] ȔƐƭÀǛöş (VI БǗ I) ğÀÛƐƴ 6 åƺƭȞöä ÆƐǵƺöä ǨƐǨÀǽǗ ƱÊõşøÆƐƬÀǽ āäÀÎǪèɽä ӱäÆÅǪèÀǽ ȷƺÊφƺǲǲş ŋφƺÀ ğääƺǲǲƺŋ .chromatography

ğÀÀƐǨşƎöä Æȓ ǴƬǲǲƺƫä ǴǛƐÊÀöä ǥÆƐǵƺöä åäÆȓƭä ÒȞǹÀǽ ɃÆȒǪÊƫä āÀȒöä åÆǵ şǗ) ǴƐƺäƺè ǴÀøǽ [11] ĘÀÀÀǨ ȡŋ ǴƐÀÕǪöä ȻØȽ ǨÀÒŋ·ƱǲǲøÀƖä ȣƳȣöä ʔǛ3 [E1]ş [E2] ǴÀÀÒÊöä Rico-Hesse *et al.*,) âşƘÀǛö (endemic ǴÀüƺǪŋ şǗ) enzootic ğÀφäƺƐΣÀǽ ǴÀüƺǪŋş (ǴƐǝÀǽş (I-Cş I-AB) ȔƐƭÀöä ȡŋ [C]ş [AB] ȷÀǽÀȒöä ·ǴƐǝÀǽƺöä ǴƐǵÀÀöä ȡŋ ȽƬŋ ÆÀÆƠ ƺȽş (1988 ȡŋ [F]ş Û[F] Û[D] āşÀȒöä ·ǴÀǽşƭä şǗ ğÀƺäƺÊöä ȡ3 ǴöşűÊŋş ğÀƐǛƐƖä Ž ǛÆǱǲ ȷÀ3ƺÀŋ (Pixuna)ş (Mucambo) IIIş (Everglades) II ğÀÛƐƭÀöäş (I-D ÛI-E Û I-F) I ȔƐƭÀöä ǴÀüƺǪŋ ɃøäøǽǗ ƱȽ (ƙǪÀǲǲøƭä Û80 – 663 AG ɃøäøǾöä) VIş (Cabassou) Vş IV

enzootic

enzootic

Belize

(Bijou Bridge Tonate

*Culex delpontei*

.(Sirivanakarn and Jakob, 1981)

(Calisher *et al.*, 1982) (I-F

.(Walder *et al.*, 1984) (I-D

1938

1861 1935

[illegible] 1972 [illegible] 1862 [illegible]

[illegible] I-AB [illegible] 1969 [illegible] 1971 [illegible] 4.000 [illegible]

[illegible] 3.000 [illegible] 12 [illegible] 10 [illegible] 1962 [illegible] 43 [illegible] 6.762 [illegible] 20 [illegible] 1969 [illegible] 310 [illegible] 31.000 [illegible] %10 [illegible] 1977 [illegible] 1972 [illegible] .(Monath, 1979) [illegible]

[illegible] 1993 – 1989 [illegible] 2.000 [illegible] I-AB [illegible]

[illegible] 1992 [illegible] 5 [illegible] 1993 [illegible] 61 [illegible] 136 [illegible] .(Kahler, 1993) 1993 [illegible]

[illegible] 1995 [illegible] (2 [illegible] (1 [illegible] (4 [illegible] (3 [illegible] 1993 [illegible] 16 [illegible] 185 [illegible] 11.390 [illegible] 475 [illegible] 504 [illegible] 14.156 [illegible] 26 [illegible] 1.258 [illegible] .(PAHO, 1995)

[illegible] 1989 [illegible] 15 – 5 [illegible] 22 [illegible] AG80 – 663 [illegible] VI [illegible] %51.6 [illegible] I-AB [illegible] %26.8 [illegible]

(TC-83)

6

VI

.(Contigiani *et al.*, 1993)

%83 %38 %40 %20

1969 50.000 38.000

1.2 20.000

5 − 2

4 − 1

asthenia

%0.2

%0.4 %4

ğĂèăøǻ ÆÊǵ ȝĂǨĂŋ ĞĂĂĂÊöă ǨƠ ʔşǼĦöă ȯǼĦŋ ·ƟəĂĦÊöă āĂŢǪöɍă ǼĿĂÎĂ Ăŋ Ǽęş ÛĞŋĂĦöă ğĂŢŧƨă ȸŋ %20ş %11 ƙǽ ğĂŧǅŢă ȯǼĦŋ ǳşăĂǪĂ ·ŏĂǽɀöă ǼĦǽ Ăŋ ĞĔǅɀöşƘè ğǼĿɀì ·ĞĂĂĂÊöă ğɍĂΣă ȸŋ %14 Ƃǚ %4 Ž ħĂŋǼöă āĂŢǪöă ôăĂȝǚ ǼǅɀǨ ·ʔŸȝǚ ȷɀȮĂ ÛȮŧΣă ȯŸǹ ôĂţǽ ƏòǚŌŋăɀǵ ŏĂÊφ ĞĂǅǕ Ž ¯ ħĂŋǼöă ÿăǼĦφă ĂŢĔɀ Ăŋ ¯ ĞĂǻɍɀöă āɀĔĦöă ·(Sanmartin, 1972) ĞĔŸĂşÂøĂĂöă ăƘǅǻĂǅ Ž ǫǼǵ ŏĂǽş Ž

ğÂĔư Ƙȡ ʔƥ ȸŋ ĞĂǻăĂɀ ğɍĂǵ ÛĂφĂĔǵǚ ÛĞĂùɀǪţă âşƘĂöă āşĂȓş ğĂÛĔƴ ÆĠÊǨ ·ĂĂĂĦÊöă āĂŢǪöăş

ȷĂǽĂȒöă) Žăɀ Êöă ƟŸĚǂă ƟŸĂşÂĂöă ħĂŋǼöă āĂŢǪöă âşƘɀ ǻĂĂǪèă :ğĂφăɀĔΣă Ž ôĂţă ğĂǵɀÊŋ ğĂŢşǚş ÛĞĂƎöăş ĞĂǅăǼöă ğĂĂøĂȮĂöă ȸŋ ĔȝɀφŸ 21 ȸŋ (I ǙĔŧĂöă ȸŋ Cş AB ĔĂĂĂè ôĂţă ĂĿĂŢǪĂ ·ĞĦĔĠÛöă Ž ʔşǼĦöă ǙȮǪŸǨ ʔĂǹɉă ţăɀφɉă ȸŋ ǼĂǼĦöă ȷǚ ĞĔǅɀöşƘè Ž ôăĂȝɉă ţɀĂǪǨ ·ÿĂĂǚ 3 − 1 ȸŋ ĞφĂȒΣă óşǻ ÿşǼĂ ·ĞĂǻĂÔǪęă ĞĔƵǚ ȼöş ǙŌɀ ğĂĔŸĚǂă Ž Ƞƥ ôĂŋ ŌȮì ğĂφăɀĔΣă ȒĦǽ Ž ôĂţă ØǹüĂ · ôĂţă ğøɀÛǹ ʔŸȝ ĔǻĂŧǪȝă ğĂĔŸĚǂă ğĂĂȮöă ĞŸę ȝŋ ôăĂȝɉă ȻØĿ ĘɀăĂǪǨ · āĂĂǪõăş ĻŢęş ÛĂŋɀĂ 2 − 1 ȸŋ ÿşǼǨ ʔƥ ȝŋ ǼĔƥ ǻăǼȓɉă ĂŢŢǨ ·ĔǼăǚ ÿǼöă âƘĂǨ ǻɀǅş ÿǼȝ şǚ øĂĔĦöă ȒĂǺĂţă ÿǼöă âƘĂǨş ĞĂĔĂǂă ȒĔĠöă ĔȒĂǚ ğĂφăɀĔΣă ȒĦǽ ƟøφĂĦǨ ·ŎĔăĂŌȝ ȷşǻ ğĂφăɀĔΣă ʔĂÎǨ ·ÿĂĂǚ 6 − 4 ȯŸǹ ĞöǼĦǪÊţă ǼĂǼì āĂĂǪõăş ÛĞĔöĂȝ ʔŧƜ ùǅĂĂŋ ŏǼǽ ōĂĿ · ôĂŧŸö ÂĔŧţă ţĂǺĂöăş ħĂŋǼöă āĂŢǪöă ȸŋ ÿǼöă âƘĂǨ øĂĔȝ ·ōĂÊŋǚ şǚ ȯĂŢèǚş ÛȷĂĂèɉă chattering ōĂȮÛòăş ȷăɀöă ǼŌɀş ǼĂǼŋ ĻŢę āĂŢǪöă Ž ğăɀǅɀţă ŌŸǪö ĞöĂÎŋ ħĂŋǼöă āĂŢǪöă ôăĂȝǚ ·ĞĦəĂì ȒĔĠöă ğĂĂȮöă ĞŸęş ÛȝĂǨĂŋ ȯɀĿǽ ȸŋ ğĂφăɀĔΣă ȒĦǽ ƟøφĂĦĂ ·ƟęĂÎöă ƟŸĚǂă ħĂŋǼöă āĂŢǪöăş ƟøăĂ8öă ƟŸĚǂă ħĂŋǼöă ÛȼŧȝǼǪö ŏƟì Ƀǚ ʔŸȝ ĂŢèǚø ǼĂÊǨş ÛĂŒăăɀǨ ȘĂΣ ĞÛÊĠĂŋ ĂŒĂŌĔèş ȤŌǨş Ûstupor ǼĂǼì ğĂφăɀĔΣă ȒĦǽ ĠĠÔǨ · ôɀŢĂöă ȝĔÛǪÊǨ ɍş ĔȓøǚǙŌÊǨ Ăŋ ĔĠöĂȡş ÛĞōĂΣĂǽ Æȡ ĂǨ ɍş ĂȝĦǪǨş ÛĂəăşǻ ȸŧȓ ƟÎǪ Ǽęş ÛĞĔφăşǼȝş Ûğɀ Ôöă şǚ ÈŧŸöă ȻĂθ ÈΣă ĞùĂĂŋş ÛĞǅɀĔŢǪŋ ȸŋ ƟøφĂĦǨ ƟøǪöă ğĂĔŸĚǂă Ž ĞǨĂŋǫă ȯǼĦŋ ·ĂĿĂǨăɀǨ ǼĂăĂǪĂ ğĂǅŸǪǹă ȸŋ ƟøφĂĦǨş ĞĔìĂţă ɃǼĦĂǨ Ǽę ·ğɍĂΣă ȸŋ %80 Ƃǚ ŌÔĂ Ǽęş ĔǼǅ ȝǨĂŋ ħĂŋǼöă āĂŢǪöă ôăĂȝǚ

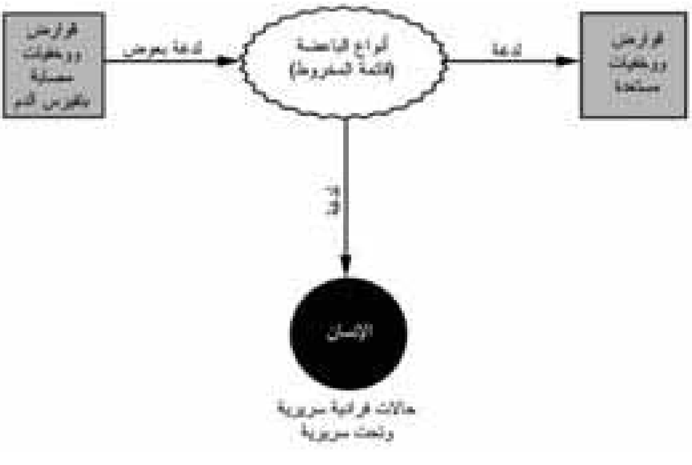
[illegible] .(Sanmartin, 1972) [illegible] .Soliped [illegible]

[illegible] :(29، 28 [illegible] Perom- [illegible] Oryzomys، [illegible] Proechimys) [illegible] Culex [illegible] (Sigmodon [illegible]yscus [illegible] aikenii [illegible] (Melanoconion [illegible] portesi [illegible] opisthopus [illegible] Tonate [illegible] (III-B) [illegible] (cedecei I [illegible] D [illegible] E، F [illegible] (II [illegible] III [illegible] IV [illegible] V [illegible] IV [illegible] VI [illegible] .(Contigiani *et al.*, 1993) [illegible]

[illegible]

[illegible] Walton *et al.*,) [illegible] (1992.

[illegible] 28 [illegible] (I [illegible] II [illegible] III [illegible] IV [illegible] V [illegible] VI [illegible]



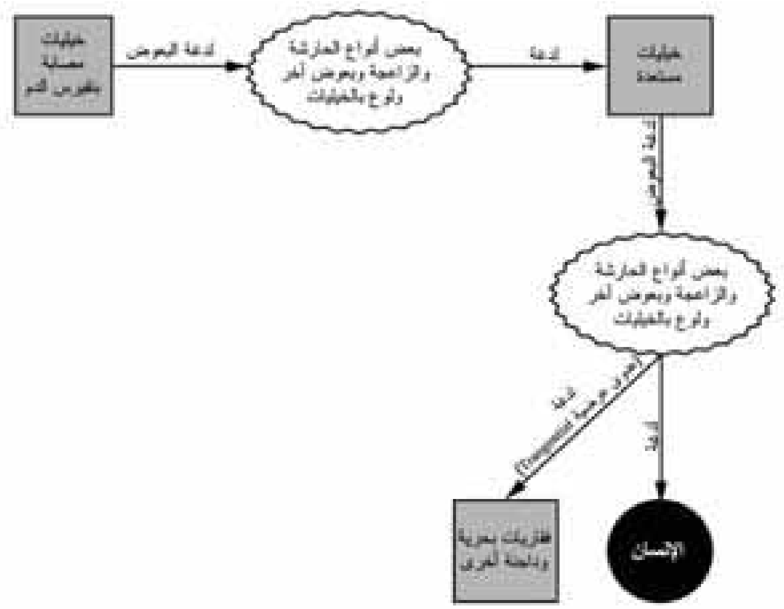
[illegible] 34 [illegible] transmitter [illegible] 8 [illegible]

[illegible] (*Psorophora confinnis* [illegible] *Mansonia* [illegible] *A. sallicitans* [illegible] *Aedes aegypit* [illegible] *Culex tarsalis* [illegible] (*M. indubitans* [illegible] *tittilans* [illegible] .(Monath and Trent, 1981) [illegible] *A. taeniorhynchus* [illegible] .(Sanmartín *et al.*, 1973)

[illegible] (equinophilous [illegible] 60, 7 [illegible] 1961 – 1953 [illegible] chromatography [illegible] .(Monath, 1979) [illegible] (Sentinels [illegible]

Ž ǦȨȞȨǦÛöä øúǦöä Ž ǥáȢǲȢţä ǦȂùȢǪţä ǧȀèşĶȀöä ƙǟ ǦęŸ3 ȱǲȢǩ ɍ ȻǫȈ ƂȈ ǧäáȢǲȢţä ȤÔǫ ȯȝ ĘùȀȀȝ õȀȀŁ .ǦȨəȀǟş ǧȀȨìȀȢ ÆǦÊǨ ȹøǪöä ǦȨȢäȢÊöä ǧȀèşĶȀöäş ƙǪȨÖȀȀȝǰä Ž ȹȈȨȤ ȹȈȚȂȀöä ȟȀȝȱöä āȀȲǪöä ǧȀȨìȀȢ ȀȲȨȢ ȱŁȀÎǩ Ɓ ÛǦȀȀǟ ǦǫȢùȢȝ øúǟ ȀȲȨȢ ǥȀÒöä ǦÕȈǥ ƷȈ3 ȀȀȀŁȀş ǦȚȢȀǂä ȽǪȀş ÛȀȶȲȒȞǟ ȯȝ3 ȷȀǪȈÖǪÊȝ ƙǪÕȈΣä ȷȈ şȱǦȀ .ȀȀȱȀȈ ǧȀȨȈȨȤä ȮęäȢȀöäş ǧȀȨȈȨȤä ƙǟ ȜȢǪÊţä ȒȀǺȀţä ȯȀÖǪɍȀǟ ȣȀƨä ÕÔȀöä ȯŸǹ ǦȨȢäȢÊöä ǧȀèşĶȀöä ȹøǪöä ȣȀǲȢȈȲ ǦȝşȀÖţä ôȢǦöä ţäȢǫȈş ǦȨǫäȢȨΣä ȯȀȀȢǭɉä ƙǟ şȈ ÛǦȨǥ ǨȨÖǟ ȹøǪöä ǦȨȢäȢÊöä ȹəȀǟȢöä âşĶȀöä ȯȢÎǫ ȯȝ3 ǦȨşȗÊȝ ȜȀȀȝȈ ǧȀȨȈȈ õȀȀŁ ȷȢÒǩ ȱę ˙Õõ ȝȈ3 .ȀȲȨŸ3 ȜØ8ǪǨ ȀȨÕȀǥ ȂȀΘ ȹøǪöä ǫȀШɉä ǴȉȢǩ ȷȈ ÕȝúȀş ÛǦȀǟşɉä ƙǟ Ȁȝ ǧäȀǪȀöä ȯȞȈ ȻȨŸ3 ǦŢȢȀɍäş .ǦȒȝȀ8öä ǦÛÕȀöä ȻØŁ

ȹȈȚȂøȀȀöä ȹȈȨȤä ȟȀȝȱöä āȀȲǪöä .29 ÕÖÎöä
.(I ȹèşĶȀöä ÙȨȽȀöä ȯȝ ABş C ȷȀǟȀȒöä) ǦȨəȀǟȢöä/ǦȨȢäȢÊöä ǦÕȈΣä




ȀȀǨȀȢǩ Ȁǯõȉ ÕÖÎǟ ÛǦȀȜöä ǦȂùȢǪţä ǧȀèşĶȀöä ȷäóşå ǯæȢȽȀȉ ȀȢŸȒş ÛǧȀȢäȢÊöä ǫȀƠ .ǦȨƧȢȝ ȀȲȀÒǉ ǦȉȀǪȨȝ ǧɍȢÛŁ ȀȲȨȢ ǫȀƠ ȹøǪöä ĘùȀȀţä şȈ ǦȢȀƨä ȻǦìş ǦȢȀƨä ĘùȀȀţä Ž

[illegible] .(Sanmartín, 1972) [illegible]

[illegible] 1943 [illegible] 83 [illegible] %90 [illegible] 6.000 [illegible] (%25 [illegible]) [illegible] Casamassima *et al.*,) [illegible] hydrops fetalis .(1987

[illegible] 15 [illegible] TC-83 [illegible] :1985 [illegible] 10 – 8 [illegible] %100 [illegible] 4 – 3 [illegible]

.passing [illegible]

[illegible] TC-83 [illegible] TC-83 [illegible]

[illegible] 12 [illegible] *confinnis* [illegible] 928 [illegible] TC-83 [illegible]

[illegible] TC-83 [illegible]

[illegible]

[illegible] TC-83 [illegible] .(Cole, *et al.*, 1974) [illegible] .(Barber *et al.,* 1978) [illegible]

[illegible] 1971 [illegible]

[illegible] 1969 [illegible] .(Sabattini *et al.*, 1985) [illegible]

[illegible] TC-83 [illegible] 28 [illegible] 6 [illegible] 28 [illegible]

.(Edelman *et al.*, 1979) [illegible] 14 [illegible]

[illegible] TC-83 [illegible] (VI [illegible]) [illegible] Roehrig *et al.*,) [illegible] .(1991

[illegible]

[illegible] malathion [illegible] extrinsic [illegible] Sentinels [illegible]

[illegible]

Barber, T.L., T.E. Walton, K.J. Lewis. Efficacy of trivalent inactivated encephalomyelitis vaccine in horses. *Am J Vet Res* 39:621–625, 1978.

Bigler, W.J., A.K. Ventura, A.L. Lewis, F.M. Wellings, N.J. Ehrenkrantz. Venezuelan equine encephalomyelitis in Florida: Endemic virus circulation in native rodent population of Everglades hammocks. *Am J Trop Med Hyg* 23:513–521, 1974.

Calisher, C.H., R.M. Kinney, O. de Souza Lopes, D.W. Trent, T.P. Monath, D.B. Francy. Identification of a new Venezuelan equine encephalitis virus from Brazil. *Am J Trop Med Hyg* 31:1260–1272, 1982.

Casamassima, A.C., W. Hess, A. Marty. TC-83 Venezuelan equine encephalitis vaccine exposure during pregnancy. *Teratology* 36:287–289, 1987.

Chamberlain, R.W. Arbovirus infections of North America. *In:* Sanders, M., M. Schaeffer, eds. *Viruses Affecting Man and Animals.* St. Louis: Green; 1971.

Cole, F.E., Jr., S.W. May, G.A. Eddy. Inactivated Venezuelan equine encephalomyelitis vaccine prepared from attenuated (TC-83 strain) virus. *Appl Microbiol* 27:150–153, 1974.

Contigiani, M.S., M. de Basualdo, A. Camara, *et al.* Presencia de anticuerpos contra el virus de la encefalitis equina Venezolana subtipo VI en pacientes con enfermedad aguda febril. *Rev Argent Microbiol* 25:212–220, 1993.

De Diego, A.I., M.E. Grela, J.G. Barrera-Oro. Anticuerpos contra encefalomielitis equina venezolana en infecciones accidentales humanas en la República Argentina. *Gac Vet (B Aires)* 37:404–418, 1975.

Downs, W.G. Arboviruses. *In:* Evans, A.S., ed. *Viral Infections of Humans: Epidemiology and Control.* New York: Plenum; 1976.

Eddy, G.A., F.E. Cole, Jr., C.E. Pedersen, Jr., R.O. Spretzel. Vacunas atenuadas de arbovirus del grupo A: ventajas e inconvenientes de su uso en equinos. Presented in: *Conferencia Internacional sobre Vacunas contra las Encefalitis Equinas, Maracay, Venezuela, 12 a 16 de agosto de 1974.* Buenos Aires: Organización Panamericana de la Salud, Centro Panamericano de Protección de Zoonosis, Producción y Control de Biológicos; 1974.

Edelman, R., M.S. Ascher, C.N. Oster, H.H. Ramsburg, F.E. Cole, G.A. Eddy. Evaluation in humans of a new, inactivated vaccine for Venezuelan equine encephalitis virus (C-84). *J Infect Dis* 140:708–715, 1979.

Groot, H. The health and economic impact of Venezuelan equine encephalitis. *In:* Pan American Health Organization, ed. *Venezuelan Encephalitis. Proceedings of the Workshop-Symposium on Venezuelan Encephalitis Virus, Washington, D.C., 14–17 September 1971.* Washington, D.C.: PAHO; 1972. (Scientific Publication 243).

Jahrling, P.B., W.F. Scherer. Homogeneity of Venezuelan encephalitis virion populations of hamster-virulent and benign strains, including the attenuated TC83 vaccine. *Infect Immun* 7:905–910, 1973.

Jahrling, P.B., G.A. Eddy. Comparisons among members of the Venezuelan encephalitis virus complex using hydroxylapatite column chromatography. *Am J Epidemiol* 106:408–417, 1977.

Johnson, K.M. Vacunas vivas para encefalitis equina venezolana (VEE). Presented in: *Conferencia Internacional sobre Vacunas contra las Encefalitis Equinas, Maracay, Venezuela, agosto de 1974.* Buenos Aires: Organización Panamericana de la Salud, Centro Panamericano de Zoonosis; 1974.

Kahler, S. Should Mexico hold its horses? [News] *J Am Vet Med Assoc* 203:1095–1097, 1993.

Kissling, R.E. Epidemic behavior of Venezuelan encephalitis infection. Diseased hosts: Equines. *In:* Pan American Health Organization, ed. *Venezuelan Encephalitis. Proceedings of the Workshop-Symposium on Venezuelan Encephalitis Virus, Washington, D.C., 14–17 September 1971.* Washington, D.C.: PAHO; 1972. (Scientific Publication 243).

Lord, R.D., C.H. Calisher, W.D. Sudia, T.H. Work. Ecological investigations of vertebrate hosts of Venezuelan equine encephalomyelitis virus in South Florida. *Am J Trop Med Hyg* 22:116–123, 1973.

McKinney, R.W. Inactivated and live VEE vaccine: A review. *In:* Pan American Health Organization, ed. *Venezuelan Encephalitis. Proceedings of the Workshop-Symposium on Venezuelan Encephalitis Virus, Washington, D.C., 14–17 September 1971.* Washington, D.C.: PAHO; 1972. (Scientific Publication 243).

Monath, T.P. Arthropod-borne encephalitides in the Americas. *Bull World Health Organ* 57:513–533, 1979.

Monath, T.P., D.W. Trent. Togaviral diseases of domestic animals. *In:* Kurstak, E., C. Kurstak, eds. Vol. 4: *Comparative Diagnosis of Viral Diseases.* New York: Academic Press; 1981.

la Monte, S. de, F. Castro, N.J. Bonilla, A. Gaskin de Urdaneta, G.M. Hutchins. The systemic pathology of Venezuelan equine encephalitis virus infection in humans. *Am J Trop Med Hyg* 34:194–202, 1985.

Organización Panamericana de la Salud. Vol. 1: *Vigilancia de las encefalitis en las Américas. Informe semestral, julio-diciembre de 1972.* Buenos Aires: Centro Panamericano de Zoonosis; 1973.

Pan American Health Organization (PAHO). *Situación de las encefalitis equinas en las Américas, 1989–1993.* Washington, D.C.: PAHO; 1993. (RIMSA 8/19).

Pan American Health Organization (PAHO). Brote de encefalitis equina venezolana, 1995. *Bol Epidemiol* 16(4):9–13, 1995.

Pedersen, C.E., Jr., D.M. Robinson, F.E. Cole, Jr. Isolation of the vaccine strain of Venezuelan equine encephalomyelitis virus from mosquitoes in Louisiana. *Am J Epidemiol* 95:490–496, 1972.

Rico-Hesse, R., J.T. Roehrig, R.W. Dickerman. Monoclonal antibodies define antigenic variation in the ID variety of the equine encephalitis virus. *Am J Trop Med Hyg* 38:187–194, 1988.

Roehrig, J.T., R.A. Bolin, A.R. Hunt, T.M. Woodward. Use of a new synthetic-peptide-derived monoclonal antibody to differentiate between vaccine and wild-type Venezuelan equine encephalomyelitis viruses. *J Clin Microbiol* 29:630–631, 1991.

Sabattini, M.S., T.P. Monath, C.J. Mitchell, *et al.* Arbovirus investigations in Argentina, 1977–1980. I. Historical aspects and description of study sites. *Am J Trop Med Hyg* 34:937–944, 1985.

Sanmartín, C. Epidemic behavior of Venezuelan encephalitis infection. Diseased hosts: Man. *In:* Pan American Health Organization, ed. *Venezuelan Encephalitis. Proceedings of the Workshop-Symposium on Venezuelan Encephalitis Virus, Washington, D.C., 14–17 September 1971.* Washington, D.C.: PAHO; 1972. (Scientific Publication 243).

Sanmartín, C., R.B. Mackenzie, H. Trapido, *et al.* Encefalitis equina venezolana en Colombia. *Bol Oficina Sanit Panam* 74:108–137, 1973.

Scherer, W.F., J. Madalengoitia, W. Flores, M. Acosta. Ecologic studies of Venezuelan encephalitis virus in Peru during 1970–1971. *Am J Epidemiol* 101:347–355, 1975.

Scherer, W.F., K. Anderson. Antigenic and biologic characteristics of Venezuelan encephalitis virus strains including a possible new subtype isolated from the Amazon region of Peru in 1971. *Am J Epidemiol* 101:356–361, 1975.

Sirivanakarn, S., W.L. Jakob. Notes on the distribution of *Culex* (*Melanoconion*) mosquitoes in northeastern Argentina (Diptera: Culicidae). *Mosq Syst* 13:195–200, 1981.

Spretzel, R.O., R.W. McKinney. Venezuelan equine encephalomyelitis in Central America and Mexico. *Milit Med* 137:441–445, 1972.

Sudia, W.D., L. Fernández, V.F. Newhouse, R. Sanz, C.H. Calisher. Arbovirus vector ecology studies in Mexico during the 1972 Venezuelan equine encephalitis outbreak. *Am J Epidemiol* 101:51–58, 1975.

Sudia, W.D., V.F. Newhouse. Epidemic Venezuelan equine encephalitis in North America: A summary of virus-vector-host relationships. *Am J Epidemiol* 101:1–13, 1975.

Sudia, W.D., V.F. Newhouse, L.D. Beadle, *et al.* Epidemic Venezuelan equine encephalitis in North America in 1971: Vector studies. *Am J Epidemiol* 101:17–35, 1975.

Trapido, H. Geographic distribution and ecologic setting. *In:* Pan American Health Organization, ed. *Venezuelan Encephalitis. Proceedings of the Workshop-Symposium on Venezuelan Encephalitis Virus, Washington, D.C., 14–17 September 1971.* Washington, D.C.: PAHO; 1972. (Scientific Publication 243).

Walder, R., O.M. Suárez, C.H. Calisher. Arbovirus studies in the Guajira region of Venezuela: Activities of eastern equine encephalitis and Venezuelan equine encephalitis viruses during an interepizootic period. *Am J Trop Med Hyg* 33:699–707, 1984.

Walton, T.E. Venezuelan, eastern and western encephalomyelitis. *In:* Gibbs, E.P.J., ed. Vol. 2: *Virus Diseases of Food Animals*. New York: Academic Press; 1981.

Walton, T.E., K.M. Johnson. Epizootiology of Venezuelan equine encephalomyelitis in the Americas. *J Am Vet Med Assoc* 161:1509–1515, 1972.

Walton, T.E., O. Alvarez, R.M. Buckwalter, K.M. Johnson. Experimental infection of horses with enzootic and epizootic strains of Venezuelan equine encephalomyelitis virus. *J Infect Dis* 128:271–282, 1973.

Walton, T.E., F.R. Holbrook, R. Bolivar-Raya, J. Ferrer-Romero, M.D. Ortega. Venezuelan equine encephalomyelitis and African horse sickness. Current status and review. *Ann N Y Acad Sci* 653:217–227, 1992.

Work, T.H. Venezuelan equine encephalomyelitis. *In:* Beeson, P.B., W. McDermott, J.B. Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

Young, N. Origin of epidemics of Venezuelan equine encephalitis. *J Infect Dis* 125:565–567, 1972.

Young, N.A., K.M. Johnson. Antigenic variants of Venezuelan equine encephalitis virus: Their geographic distribution and epidemiologic significance. *Am J Epidemiol* 89:286–307, 1969.

# [illegible]
# VENEZUELAN HEMORRHAGIC FEVER

**[illegible] ICD-10 A96.8**

**ICD-10 A96.8 Other hemorrhagic fevers caused by arenaviruses** [illegible]

Tacaribe [illegible] (Guanarito [illegible] Arenaviridae [illegible] (*arenavirus* [illegible]

[illegible] 1989 [illegible] 26 [illegible] (1991 [illegible] 1990 [illegible] 104 [illegible] 1992 [illegible] 195 [illegible] %2.6 Tesh *et al*.,) [illegible] (1993 .(Salas *et al.*, 1998) [illegible] 4 – 3 [illegible] (cyclically [illegible] .(de Manzione *et al.*, 1998) [illegible] .(Salas *et al*., 1998)

[illegible] 11 [illegible]

*Oryzomys* ÈÁDZ ȡŋ äøǰä ȷäæÀDZ Ž ŌŋÀȞöä äØT åäÆȓÜ ğÆDZşş (*Sigmodon hispidus*) ʔşÆȞöä øÆÔŋ ÀŢφä) 1992 ÿÀʒ ʒèşÜ öÀÔŌǫèä *ǿęẩǯǿş* Ì ĒĶ ʔÀDZÜ .(Salas *et al.*, 1991) .(öÀŌǫφɾä àÀüş

ǦÀè 54 – 6 ȡŋ ȽŁøÀȶʒÜ ǳşäÀǪǩ ζǪÀøÀφÀĒDZ ȡŋ ÏȒÀÀŋ 15 ʒȒǹ .ȷÀÊφɋä Ž ô Àţä Ïǵζȓş Àǯõǰä ô äÀʒǰä .(Salas *et al.*, 1991) ǦĒDZζǿşƘèş ǦĒDZζǿζÀÂĒζş ǦÀÀÀè ğÀèäøÆö öÀĒŌöäş ȷÀĔǯȣöäş ÿζȞŸĠöä āÀȚǪöäş öÀȞÊöäş ȺŸÔÀţä Ɓǰäş ţäÆÔöäş ōÀŒɋäş ʔȶΣä .ȺŁ .ȺŁ ʔÀǹǰä ô äÀʒǰä .ǬȶÛöä ǵøäÀɋş åζèǰä ȓζȣǪöäş ǦǯŸöä ȣşÀøφş ȣÀʒÀöäş öÀȚèɋäş crepitation ǦÀζɘÀöä ǦȞęÀÀöäş ǦĒȚDZζöä ǦŋæζöäşǦĒĠęÀöä ÆŌȞöä ȽÅȒǩş ǦȶȞǪŸţä āÀȚǪöä ȡŋ ʔȓÀŋ 9 ğÀŋ .ȒĒĠöä ğÀÀÀȮöä ǦŸęş ğÀȞĒÀÔöä ǦŸę ʔȓÀţä ȽŢȞŋ ʔÆö ȷÀõ .ğäƎΣäş ǦĒȮÀÀŋÜ āζÀɘä ǦĒζÂøÀöä ğÀĒȶΣä Ž ǵåζDZζţä ŌŸǪö ǦöÀÎŋ ğÀζÜ ǦǯɘäǴǪζ ÀȚşÜ .15 øöä ǨƠş ƒţä Ōǹäå ȣÂøφ ʒŋ ǦÀζɘÀöä ǦŋæζöäǦĒζÂøÀöä .ğÀèşƘÀöä ȡʒ ǦƤÀÀöä ʔÀǹǰä ÿÆöä åζDZşş ÛöÀȞÛöä ȽÅȒǩş ÆŸÖöä ȽÅȒǩ ÛĞȞȓζŋ ȣşÂøφ ʒŋ ɃÆĠõ ȷÀŌǪǵä ÛÆÀɘä .ȽǵÀöäş ǵøäÀţäş ɃζȞţä ɃÆȞţä ŌĒĠÊöä Ž ȡŋ ƙȒÀÀŋ ȡŋş äζǩÀŋ ȡÀØöä ʔȓÀţä Ōõ öÀȞüş ŌÔŋ ȡŋ ζǪÀøÀφÀĒDZ âşƘζ åÀÀǪèä .öÀĒǵÜ äζŌæ ȡÀØöä

âşƘÀö ÏåäÆȓÜ ÀìÀĠŋŸöä ȺʒÀÀţä ĘöüǪöä ÀȚşÜ .ʔȓÀȶŸö ÏĒŸəÀʒ ÏÛöÀƯ 57 ʔŸʒ Ǧèäøå Ž ƘÎÀ Æę ɃØöäş ÛƵĒÀǹ Ⱥƥ ô Àŋ ȽȚȒȞæ ǦäÀòÜ ȡʒ ŊŸäÜ Æęş ÛȽȚÀŋ %10.5 Ž ζǪÀøÀφÀĒDZ .ô Àţä ȡŋ ǦŋÀǹş ŌęÜ öÀÔȉÜ åζDZş ƂÜ

ÆÀÆȞǪö ǦȞèζŋ ğäöÀÔŌǫèä Û1992 ÿÀʒ ƘÀÀDZÜ .öÀŌǫφɾä äÀüş ʔşÆȞöä øÆÔŋ ţäζφÜ 9 ȡŋ Ïȓ øÀę 234 Àèǰ ÆəÀÔţä ƘŋÆÅǪèä .(Tesh *et al.*, 1993) ʔşÆȞöä ţåζǪÊŋ ȡŋ âşƘÀöä åÀÀǪèä .ǦÀÀÎĠöä ğɾÀΣä ƘǪÆǵ Ǭǵ ζǪÀøÀφÀĒDZ ǦÀÆŸæ ȡŋ ȨüÀŋ 4 Ž ǦÀŸǪƯ *(S. alstoni* ȡÛŌöä æÀDZ ȡŋ ÏDZæζʃ 40 ȡŋ 19 .Ⱥʒζφ ŌÔÎäş ÛƘʒζφ ȡŋ Ïȓ øÀę 31 ǦŸȞüÜ 12 øöä ȡŋ 9 ʔÆö ȷÀõ .*zygodontomys brevicauda* ÆÔŌöä øüζ ȡŋ ǯæÀʃ 106 ȡŋ 12ş .ʔÀǹÜ ǦĒǵÀφ ȡŋ.ÏȒÀÜ ŌŋÀȞöä ÈÀÀö ǦĒŸÔŋ åäÆȓÜ âşƘÀöä ÀȚÀŋ åÀÀǪèä Ⱥøǫöä Ïøüζ

[illegible] 1993 [illegible]
.(Fulhorst *et al.*, 1999) [illegible]

[illegible] Vero [illegible] .(C6\36) [illegible]

[illegible]

[illegible]

De Manzione, N., R.A. Salas, H. Paredes, O. Godoy, L. Rojas, F. Araoz, *et al.* Venezuelan hemorrhagic fever: Clinical and epidemiological studies of 165 cases. *Clin Infect Dis* 26(2):308–313, 1998.

Fulhorst, C.F., T.G. Ksiazek, C.J. Peters, R.B. Tesh. Experimental infection of the cane mouse Zygodontomys brevicauda (family Muridae) with Guanarito virus (Arenaviridae), the etiologic agent of Venezuelan hemorrhagic fever. *J Infect Dis* 180(4):966–999, 1999.

Salas, R.A., N. de Manzione, R.B. Tesh, *et al.* Venezuelan haemorrhagic fever. *Lancet* 338:1033–1036, 1991.

Salas, R.A., N. de Manzione, R.B. Tesh. [Venezuelan hemorrhagic fever: Eight years of observation.] *Acta Cient Venez* 49 Suppl 1:46–51, 1998.

Tesh, R.B., M.L. Wilson, R. Salas, *et al.* Field studies on the epidemiology of Venezuelan hemorrhagic fever: Implication of the cotton rat *Sigmodon alstoni* as the probable rodent reservoir. *Am J Trop Med Hyg* 49:227–235, 1993.

Tesh, R.B., P.B. Jahrling, R. Salas, R.E. Shope. Description of Guanarito virus (Arenaviridae: Arenavirus), the etiologic agent of Venezuelan hemorrhagic fever. *Am J Trop Med Hyg* 50:452–459, 1994.

# VESICULAR STOMATITIS

**ICD-10 A93.8**

**ICD-10 A93.8 Other specified arthropod-borne viral fevers**

Sore mouth of cattle and horses

.Rhabdoviridae *Vesiculovirus* 17 70

*.Lyssavirus*

(2 2) Cocal (1 4 Indiana (3 3) Alagoas New Jersey .(4 Chandipura Piry .Isfahan

Carajas 1984 Maraba G

(Gearhart *et al.*, 1987)

ƙÔĦǪöä Àζζǩ ȟøǪöä ǦöÆȞǪÊţä åäÆȓ ɉä Žş ŌŋÅȞöä Ǧɜζζ Ž ȟÊƸǝø ŌŋÅɜ G ƙǩşƎöä ɈǙ
·ôÀţä Æȓ

ĘùÅŋ ōÅÆȽ ·ȟøæÀȣöä ǥÀȮöä ζÔφ Ž åşÆƮ ȟŸÔǺζΣǟ ǈÀöä āÅƬǪöä ·ŽäÀȣƨä ţàζǪöä ǈÀöä āÅƬǪöɍ ȟèÀǱζƸφ âşƘζş ȟŸÔǺζΣǟ ǈÀöä āÅƬǪöɍ ÅφÅÆφä âşƘÀæ ğÅφäζƸΣÅæ ǦÀùζǪŋ ǥÆĦǪţä ğÅɍζöäş şƘǤöäş ŌƸÊȮţäş øşåäζōɉäş ÅƸǤŋζöζōş ɁÛèζöä ÅȮÀŋǙ Ž ȟŸÔǺζΣǟ ŌÀäǝƎöÅæ ǈƸŸƸæ Žş Ûζ ōÅæζǩş åäÆƸÀÀǪæ êζäÅɜζæ ǦäÅɖ Ž ȯÅōζō âşƘζ åÀÀǪèǟ ·ŸÀşÂøÀζş ǦöÅğ ɃÜæ ǦçŸɜ ɁŸɜ ÅƬÀŋ ɃǙ ȡÒÀ Ɓş Û(*Oryzomys* ţζφ) äøǙ æÀǱ ɁŸɜ åζǱζŋ âζè ȡŋ ·ζōÅæζǩş åäÆƸÀÀǩ Ž ğÅƸŸȠǟ ƙæ ğÆǱş ÀŒǙ ǈɖø ÛȟŸÔǺζΣǟ ǈÀöä āÅƬǪöä ȡŋ ǦÀÀÀè ɁøǪğ ɁşÆȞöä ĶǦǰǩ Ɓ ȡȮö Û1939 ȳÅɜ ǦÀÔğɉä Ž ƙǪǱøɉä Ž ɃÀÀÊöä ôÀţä ÒÅì Ž Ż ÅÛöÀÀ ǈƸŸçǙ Ž ǦÀÔğɉä ƙæ ǦƸìÅζ ĶǪÆğ ÅŋÆÀɜ Ōöæş ÛâşƘÀöä åäÀÀǪèÅæ 1963 ȳÅɜ ğÅƸŸȠǟ ÆƸÔÀ ȼφǙ şÆǤÀş ÛȯÅōζō âşƘζ âÅèǙ ɁŸɜ âşƘÀöä åÀÀǪèǟ ·âÀÀǙ ȄƸφζƸæ ǈƸŸçǙ Û1964 ȳÅɜ ŌÀäǝƎöä Ž ôÀţä ĶǤǪǙ ·ζōÅæζǩş åäÆƸÀÀǩ Ž åζǱζţä ŌŋÅȞöä ȄÀφ ȼφǙ ɃǙ ÛǗŌζ ŌȮÎæ ǦÀÔğɉäş ȯÅȣǤöä ǦƸìÀÀöä ĶæÀȯǙ ·âäζɖɍǙ ǦÀɍş Ž ǦƸìÅζ ȯŸǹ Ƃşɉä ǥÀȽŸö âşƘÀō ŌŋÅȞöä ȣÀȞǪèǟ ·ǺȒÀǙ ɈÅÊφqäş ǦƸìÅţä Ž ğɍÅğ ğÆȽζì ȼφǙ ǈɖø ÛȟÊƸǝø ŌÀäǝƎöä Ž âşƘÀöä äØȽ ÀƸŋ ·ɈǿäɁøǪğş ȟŸÔǺζΣǟ ǈÀöä āÅƬǪöɍ âäζɖɍǙ âşƘζ ·ÆÀÆǱ åÀÀǪèǟ ·ȾƸǱƘè ÛζöşÅæşÅè ÛζōζǤŋÅφƘæ ÛâÅÀǱ âÅÆŋ ÛâäζɖɍǙ ·ǦƸöÅǪöä ğÅɍζöä Ž ȯÅÖǪφɍä ĶǤǪǙ Û(*Lutzomyia* ǦƸŋÅǩζŸöä ţäζφ) ÆöÀÅöä āÅæØöä ȡŋ ÅƸǤŋζöζō Ž ȼÊÀφ ŌŋÅȞöä
Tesh *et al.*,) ÆƸǤÀÀθ ǦÀÆȞÅţä *L. longipalpis* *Èŋäζŗöä ǦŸζÛöä ǦƸŋÅǩζŸöä* Ž ȒƸǤţä Ǝɜ ǦƸìÅζ ĶǪÆğ ÅƬƸζş ·ȯζèşå ÆφäÀǳζÀøş Ûζöşåæşåè ȟøǪÀɍş Ž ȯÅōζō âşƘζ ÀƸŋ ·(1987
ÒƸÅÎǪöä ĶǤǪǙ Æçş Û1979 – 1978 ζƸò ȯŸǹ ǦÊèùŋ 15 Ž ǦÀÔğɉä ĶæÀȯǙ
.(Prado *et al.*, 1979) Ķçζöä Ōöæ Ž ÆƸǱζöşƘè

ȟÀζ ·ǥÆĦǪţä ğÅɍζöä Ž qşÆΣä ȡŋ ȡÅåÆƮ ƙÛý ȟŸÔǺζΣǟ ǈÀöä āÅƬǪöä ÀƬƬƗ ĶǪÆğ ·ǦƸæζƨä ÅƸöşøÅōş ǦƸöÅƗÎöä ÅƸöşøÅōş ÅƸǱøζǱş ÅŋÅæɈ ǦƸçÀÎöä ǦƸæζƨä ğÅɍζöä ĶĦǤòǙ ÅŋÆɜ Û1970 Ûèζŋ ɁøǪğ 1900 ǦÀäÆæ ȡŋ ÅƸζÀè ȟìäζţä Ž ǦÀÀÀè ğɍÅğ

[illegible] 10 [illegible] lineages [illegible] 1998 [illegible] 1995 [illegible] 70 [illegible] .(Rodríguez, 2002)

[illegible] 74 (%57.4) 31 [illegible] 54 [illegible] .(Johnson *et al.*, 1966) [illegible] %90 [illegible] %9 [illegible] %21 [illegible] 4 [illegible] 20 – 16 [illegible] %63 [illegible] %80 [illegible] 5 – 0 [illegible] .(Tesh *et al.*, 1969) [illegible] 1983 – 1982 [illegible] .(Johnson *et al.*, 1969) %48 [illegible]

48 %22 (Reif *et al.*, 1987) 52 %5.8 %83 %63 (Tesh *et al.*, 1987)

(Srihongse, 1969)

(Hanson, 1981) 10

[illegible]
.%100 [illegible] %10 [illegible]

[illegible] 14 [illegible] 1982 [illegible] 829 [illegible] (1983 [illegible]) livestock [illegible] 1945 [illegible] 1982 [illegible]
.(Hansen *et al.*, 1985) [illegible]

[illegible] 1992 [illegible] 1963 [illegible] 1939 [illegible] 1962 [illegible] 100 [illegible] 1984 [illegible] 1964 [illegible]
.(Astudillo *et al.*, 1986) [illegible]

[illegible] livestock [illegible] 16 [illegible] %67 [illegible] %74 [illegible]
.(Reif *et al.*, 1983) [illegible] %42 [illegible] %7 [illegible]

[illegible] 283 [illegible] 145 [illegible] 1972 [illegible] 477 Cadena and) ([illegible] 36 [illegible] 109) [illegible]

.(Estupitiñán, 1975

[illegible]

[illegible] 40 [illegible] 3 [illegible] .(Quiroz *et al.*, 1988) [illegible]

[illegible] 8.9 [illegible] Thurmond *et al.*,) [illegible] .(1987 [illegible] %30 [illegible] .(Mason, 1978)

[illegible]

[illegible]

[illegible] *Aedes* [illegible] *Lutzomyia trapidoi* [illegible] sentinel [illegible]

[illegible] 1982 [illegible] dipterans [illegible] (midge [illegible]) *Culicoides variipennis* [illegible] (bluetongue [illegible]) [illegible] Anthomyiidae [illegible] Chloropidae [illegible] Simuliidae [illegible] *M. autumnalis* [illegible] *Musca domestica* [illegible] (Walton *et al.*, 1983) [illegible] *L. shannoni* [illegible] 6 [illegible] %50 [illegible] 610 [illegible] (Corn *et al.*, 1990) 1988 [illegible] (Comer *et al.*, 1990) [illegible]

(%40 - %30)

.(Zuluaga and Yuill, 1979)

acarids

1982 .(Stallknecht *et al.*, 2001)

4

[illegible] latent [illegible] – *Simulium* [illegible] Lord and) [illegible] .(Tabachnick, 2002

[illegible] 1982 [illegible] .(Mason, 1978) [illegible]

[illegible] exudate [illegible]

[illegible]

[illegible] (Alonso *et al.*, 1991) [illegible] Indiana [illegible] New Jersey [illegible] (Gomes *et al.*, 1989) [illegible] Vero [illegible]

[illegible]

[illegible] 3 [illegible] (Arbaláez *et al.*, 1982) [illegible] VSNJV [illegible]

[illegible] 1983 – 1982 [illegible] 175 [illegible] 30 [illegible] Gearhart *et*) [illegible] (*al.*, 1987 [illegible]

[illegible]

Alonso, A., M.A. Martins, M. da P. Gomes, R. Allende, M.S. Sondahl. Development and evaluation of an enzyme-linked immunosorbent assay for detection, typing and subtyping of vesicular stomatitis virus. *J Vet Diagn Invest* 3:287–292, 1991.

American Veterinary Medical Association. Vesicular stomatitis hits two more states. News. *J Am Vet Med Assoc* 182:450, 1983.

Arbaláez, G., J.R. Rocha, U. Cardona, W. Ríos. Ensayos de vacunas contra la vesicular stomatitis. II. Observación experimental de campo. *Rev Assoc Col Med Vet Zoot* 6:27–34, 1982.

Astudillo, V.M., J. Estupiñán, F. Rosenberg, *et al. Estudio epidemiológico de la vesicular stomatitis en América del Sur*. Rio de Janeiro: Pan American Foot-and-Mouth Disease Center of the Pan American Health Organization; 1986. (Monograph 15.)

Cadena, J., J. Estupiñán, eds. *La Fiebre Aftosa y Otras Enfermedades Vesiculares en Colombia*. Bogotá: Instituto Colombiano Agropecuario; 1975. (Technical Bulletin 32.)

Comer, J.A., R.B. Tesh, G.B. Modi, J.L. Corn, V.F. Nettles. Vesicular stomatitis virus, New Jersey serotype: Replication in and transmission by *Lutzomyia shannoni* (Diptera: Psicholidae). *Am J Trop Med Hyg* 42:483–490, 1990.

Corn, J.L., J.A. Comer, G.A. Erickson, V.F. Nettles. Isolation of vesicular stomatitis virus New Jersey serotype from phlebotomine sand flies in Georgia. *Am J Trop Med Hyg* 42:476–482, 1990.

Federer, K.E., R. Burrows, J.B. Brooksby. Vesicular stomatitis virus—the relationship between some strains of the Indiana serotype. *Res Vet Sci* 8:103–113, 1967.

Food and Agriculture Organization of the United Nations (FAO)/World Health Organization/International Office of Epizootics. *Animal Health Yearbook 1984*. Rome: FAO; 1985. (FAO Animal Production and Health Series 34.)

Gearhart, M.A., P.A. Webb, A.P. Knight, M.D. Salman, J.A. Smith, G.A. Erickson. Serum neutralizing antibody titers in dairy cattle administered an inactivated vesicular stomatitis virus vaccine. *J Am Vet Med Assoc* 191:819–822, 1987.

Gomes, M.P., M.S. Söndahl, M.A. Martins. Aplicación de la técnica inmunoenzimática (ELISA) para el diagnóstico de los virus de la fiebre aftosa y vesicular stomatitis en comparación con la prueba de fijación del complemento. *Bol Centro Panam Fiebre Aftosa* 55:15–19, 1989.

Hansen, D.E., M.C. Thurmond, M. Thorburn. Factors associated with the spread of clinical vesicular stomatitis in California dairy cattle. *Am J Vet Res* 46:789–795, 1985.

Hanson, R.P. Discussion of the natural history of vesicular stomatitis. *Am J Epidemiol* 87:264–266, 1968.

Hanson, R.P. Vesicular stomatitis. *In*: Gibbs, E.P.J., ed. Vol. 1: *Virus Diseases of Food Animals: A World Geography of Epidemiology and Control*. New York: Academic Press; 1981.

Hanson, R.P., J. Estupiñán, J. Castañeda. Estomatitis vesicular en las Américas. *In*: *Primera Reunión Interamericana sobre el Control de la Fiebre Aftosa y Otras Zoonosis*. Washington, D.C.: Pan American Health Organization; 1968. (Scientific Publication 172.)

Jenney, E.W. Vesicular stomatitis in the United States during the last five years (1963–1967). *Proc Annu Meet US Anim Health Assoc* 71:371–385, 1967.

Johnson, K.M., J.E. Vogel, P.H. Peralta. Clinical and serological response to laboratory-acquired human infection by Indiana type vesicular stomatitis virus (VSV). *Am J Trop Med Hyg* 15:244–246, 1966.

Johnson, K.M., R.B. Tesh, P.H. Peralta. Epidemiology of vesicular stomatitis virus: Some new data and a hypothesis for transmission of Indiana serotype. *J Am Vet Med Assoc* 155:2133–2140, 1969.

Jonkers, A.H. The epizootiology of vesicular stomatitis viruses: A reappraisal. *Am J Epidemiol* 86:286–291, 1967.

Lord, C.C., W.J. Tabachnick. Influence of nonsystemic transmission on the epidemiology of insect borne arboviruses: A case study of vesicular stomatitis epidemiology in the western United States. *J Med Entomol* 39(3):417–426, 2002.

Mason, J. La epidemiología de la vesicular stomatitis. *Bol Centro Panam Fiebre Aftosa* 29–30:13–33, 1978.

Patterson, W.C., L.O. Mott, E.W. Jenney. A study of vesicular stomatitis in man. *J Am Vet Med Assoc* 133:57–62, 1958.

Pérez Chaverri, E. La vesicular stomatitis como zoonosis. *Bol Of Sanit Panam* 68:223–229, 1970.

Prado, J.A., S.A. Petzhold, P.E. Reckziegel, E.N. Jorgens. Estomatite vesicular no estado Rio Grande do Sul (Brasil). *Bol Inst Pesq Vet D Finamor* 6:73–77, 1979.

Quiroz, E., N. Moreno, P.H. Peralta, R.B. Tesh. A human case of encephalitis associated with vesicular stomatitis virus (Indiana serotype) infection. *Am J Trop Med Hyg* 39:312–314, 1988.

Reif, J.S., P.A. Webb, T.P. Monath, *et al.* Vesicular stomatitis: Epidemiologic and zoonotic aspects of the 1982 outbreak [Abstract]. *J Am Vet Med Assoc* 183:350, 1983.

Reif, J.S., P.A. Webb, T.P. Monath, *et al.* Epizootic vesicular stomatitis in Colorado, 1982: Infection in occupational risk groups. *Am J Trop Med Hyg* 36:177–182, 1987.

Rodríguez, L.L. Emergence and re-emergence of vesicular stomatitis in the United States. *Virus Res* 85(2):211–219, 2002.

Srihongse, S. Vesicular stomatitis virus infections in Panamanian primates and other vertebrates. *Am J Epidemiol* 90:69–76, 1969.

Stallknecht, D.E., D.E. Perzak, L.D. Bauer, M.D. Murphy, E.W. Howerth. Contact transmission of vesicular stomatitis virus New Jersey in pigs. *Am J Vet Res* 62(4):516–520, 2001.

Tesh, R.B., K.M. Johnson. Vesicular stomatitis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Tesh, R.B., P.H. Peralta, K.M. Johnson. Ecologic studies of vesicular stomatitis I. Prevalence of infection among animals and humans living in an area of endemic VSV activity. *Am J Epidemiol* 90:255–261, 1969.

Tesh, R.B., J. Boshell, G.B. Modi, *et al.* Natural infection of humans, animals, and phlebotomine sand flies with the Alagoas serotype of vesicular stomatitis virus in Colombia. *Am J Trop Med Hyg* 36:653–661, 1987.

Thurmond, M.C., A.A. Ardans, J.P. Picanso, T. McDowell, B. Reynolds, J. Saito. Vesicular stomatitis virus (New Jersey strain) infection in two California dairy herds: An epidemiological study. *J Am Vet Med Assoc* 191:965–970, 1987.

Timoney, J.F., J.H. Gillespie, F.W. Scott, J.E. Barlough. *Hagan and Bruner's Microbiology and Infectious Diseases of Domestic Animals: With Reference to Etiology, Epizootiology, Pathogenesis, Immunity, Diagnosis, and Antimicrobial Susceptibility*, 8th ed. Ithaca: Comstock; 1988.

Walton, T.E., P.A. Webb, D.B. Francy. Vesicular stomatitis virus in wild caught insects. *Foreign Anim Dis Rep* (USDA) 11:2, 1983. Reproduced in *Bull OIE* 95:48, 1983.

Zuluaga, F.N., T.M. Yuill. Estudios ecológicos de los virus de vesicular stomatitis en Antioquia, Colombia. *Bol Of Sanit Panam* 87:377–388, 1979.

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## [illegible]

## VIRAL HEPATITIS OF MAN AND NONHUMAN PRIMATES

**[illegible] B17 [illegible] B [illegible] A; B16 [illegible] A [illegible] ICD-10 B15 [illegible] B18 [illegible] B19**

**ICD-10 B15 Acute hepatitis A; B16 Acute hepatitis B; B17 Other acute virat hepatitis; B18 Chronic viral hepatitis; B19 Unspecified viral hepatitis**

*[illegible] C [illegible] D [illegible] B [illegible] A [illegible] [1] [illegible]*

[illegible] A [illegible] B [illegible] parenterally [illegible] B [illegible] A [illegible] C [illegible] B [illegible] B [illegible] A [illegible]

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[1] [illegible]: Benenson (1990) Oubiña and Fay (1991).

B A E D enterically.

picornavirus B (Gust *et al.*, 1983) Hepadnaviridae C (Melnick, 1986) B A C B 50 – 30 parenteral.

D D B B B B nucleocapsid D B B B A E 34 – 32 (Bradley, 1990) labile.

D C B A

[illegible] E [illegible]

[illegible] 200 [illegible] 1960 – 1958 [illegible] (Deinhardt, 1976) [illegible] A [illegible] A [illegible] A [illegible] (anti-HB) B [illegible] B [illegible] %80 [illegible] %25 [illegible] 10 [illegible] 10 [illegible] B [illegible] 26 [illegible] 2 [illegible] B [illegible] (Deinhardt, 1976) [illegible] B [illegible] 7 [illegible] 62 [illegible] %1.6 [illegible] 82 [illegible] %2.4 [illegible]

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[illegible] (HBs Ag) B [illegible] 2

[illegible]

[illegible] (*Papio cynocephalus*) [illegible] %36.2 [illegible] %29.9 [illegible]
[illegible] %11.3 (*Saimiri sciureus*) [illegible] %5
[illegible] 9 [illegible] 5 [illegible] .(Eichberg and Kalter, 1980) [illegible]
[illegible] 4 [illegible] B [illegible]
[illegible]
[illegible] .(Zuckerman *et al.*, 1978) [illegible]
[illegible] A [illegible]
(*Aotus trivirgatus*) [illegible] 145 [illegible]
[illegible] 100 [illegible]
[illegible] .(Lemon *et al.*, 1982) [illegible]
[illegible] 13 [illegible]
[illegible] (*Papio ursinus*) [illegible] 7 [illegible] A
[illegible] G [illegible] 4
[illegible] A [illegible]
[illegible]
[illegible] A [illegible]
[illegible] .(Deinhardt and Deinhardt, 1984)
cynomolgus [illegible]
(*Macaca fascicularis* [illegible]) crab ([illegible])
[illegible] 3 [illegible]
[illegible] 54 [illegible] [3] [illegible]
[illegible] 52 [illegible]
[illegible] 18 [illegible] A [illegible]

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.(Cohen *et al.*, 1989) [illegible] 16 [illegible] [3]

[illegible] 52 [illegible] 6 [illegible] 54 [illegible] .(Burke and Heisey, 1984) A [illegible] 3 [illegible] Smith *et*)) [illegible] %50 [illegible] 4 [illegible] A [illegible] (*al.*, 1980; *Lancet*, 1981 [illegible]

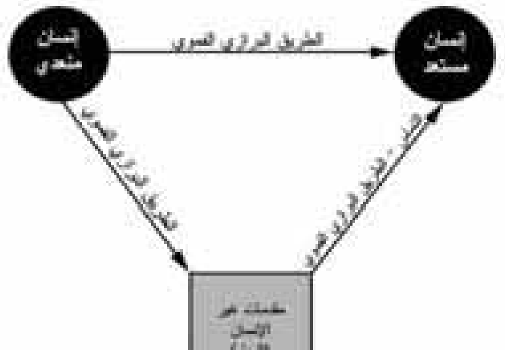
[illegible] (*Aotus trivirgatus*) [illegible] MS-1 [illegible] A [illegible] Lemon and) [illegible] genomic [illegible] heterogeneity [illegible] .(Binn, 1983 Lemon *et al.*, 1987;) [illegible] A [illegible] .(Brown *et al.*, 1989

[illegible] A [illegible] B [illegible] 6 – 3 [illegible] 90 – 60 [illegible]

[illegible] .intercurrent [illegible]

ÿÀȞĠöä ŎÔɳ Ž ȷÀõ ·ģÆĦǪţä ğÀɍɀöÀæ ÀĿɸÀÀŸÊÀæ Ž ĞÀÀÎæ ğɍÀǵ [5] ȸɳ ĞĿÌÀɀ Ž ÛğÀkøÀĠèɟä ƙɳÜ ĞŸęÀɸ ȸɳ (IU 15 БÜ 0 ɃɀÊöä) IU 85 ÀƮĞĠè ɃØöä (ɃÂøɸÀĠŧÎöä) ·(ȯá/Ʒɳ 0.5 БÜ 0.01 ɃɀÊöä) ƙæşÀŸĿĠöä ȸɳ ȯá/Ƞɳ [2]ş ȷÀÊɸqä БÜ ȷÀÊɸqä Ƙȡ ğÀɳÆÕţä ȸɳ ÀĿȞĠù ŌŌǪÀk ȷÜ ÀƮÀÒƺ ʔşÆȞöä ȷÜ ȣÀƷ ÀɳÆÀƷş ÕŸǪö ĞöÀÎɳ ĞĿDZɀöɀǪÊĿƮäş ĞÀɀĿΣä ĞĿəÀĿŧĿÒöä ĞĿǵÀÀöä ȸɳ ɄŁ ğÀɸäɀĿΣä Ž ʔşÆȞöä ȷÜş ĞDzĿǪɸş ÛʓæÀŧÀõ ğÀɸäɀĿΣä ȻØŁ ÿäÆÅǪèɍ ȯØĠk áɀƮƨä ȷÜɀ ÛȷÀÊɸqä Ž ǫÆƠ ɄøǪöä ·ȷÀÊɸqä Ž ĞĿèşƘÀöä ÆĠÒöä ğÀæÀƮǪöä ȯɀǵ ģÀɀɀǪţä ĞɀÀȞţä Ž ĞŧƮɳ ğÀɳÆÕk ƘǪÆǵ ŌöØö *Sanguinus* ţɀɸ ȷÜ şÆĠÀş ÛĞÎÕöä ɄŁ ğÀèäøÆöä ȽŢȞɳ Ž ÿÆÅǪÊk ɄøǪöä ğÀɸäɀĿΣä ·ÀĿöÀǵ Ōõ Ǝʒ ĞŸÊŸè Ž ȽŢǪÀɳ ŎÒÎæ ĞÎÕöä Ž ʔşÆȞöä ȯÀŌǪɸä ȸÒƺ ·ÀáäÆȞǪèä ÀʒõɟäɀŁ *mystax* ŎÒÎæ ĞÀÆȞÀţä *Sanguinus mystax* ȸɳ ʓæÀŧÀöä ȐȞæ ÀƮŢk ·ÀÀÕǵş ɃɀŧÀöä ĘÀÀÛöä ȸɳ ·ʔÀÎk Àɳ ÀĠöÀȡ ÀƮÀÒö ÛáÀΣä ɃÆĠÒöä øɀÔöä ȸɳ ƘkÀɳ ÀŒÜ ʔøǪǵ ÀÀÀÀè ÀɾÀɳ ɄøĞÀÀΘ ·(Deinhardt, 1976) ÆĠÒöä Ʒŧ Îk şÜ ȸɳÀţä ÆĠÒöä āÀƮǪöä ÀƮŢk ğÀɸäɀĿΣä ȻØŁ ȷÜ ÆŁÀÎʌ Ɓ

·ĞŸŧǪǂä ȯÀÕǪɸɍä ĞÕŸǵ – ȷÀÊɸqä Ƙȡ ğÀɳÆÕţæ [A] ÆĠÒöä āÀƮǪöä ȯÀÕǪɸä ·[30] ŎÒÎöä



ĞÀÀÎĠöä ʔşäÆȞöä Ōõ ȷÜ ŎŧǪǂä ȸɳ :(30 ŎÒÎöä) ȯÀÕǪɸɍä äÀùş ʔşÆȞöä øÆÔɳ Û[A] ÆĠÒöä āÀƮǪöä āşƘɀ ȸƷ ƘŧƠ Æę ȷÀÊɸqä Ƙȡ ğÀɳÆÕɳ Ʒɳ ĘĿǪɀöä āÀŧǪöä ȸɳ ĞĠÊǪÒţä ÙÕǪöä ȷÀÊɸqä Ƙȡ ğÀɳÆÕţä ȸɳ Æǵäş ţɀɸ Ʒɳ āÀǪ ʔŸƷ äɀɸÀõ ÀȐÀÀɳ [173] ƙæ ȸŧɀ

[illegible] [151] [illegible] [6] [illegible]

[illegible]

(Lemon *et al.*, 1982) [illegible] *A. trivirgatus* [illegible]

[illegible]

[illegible] apes [illegible]

parenteral

(Kessler *et al.*, 1982)

($HB_sAg$)

[illegible] (HAAg) [illegible] Deinhardt and) [illegible] A [illegible] (Gust, 1983 [illegible] M [illegible] 6 – 4 [illegible] infectivity [illegible] B [illegible] (Deinhardt and Gust, 1983) [illegible] Duermeyer *et*) [illegible] B [illegible] A (*al*., 1983.

[illegible] A [illegible] Hoffman,) [illegible] 1.000 [illegible] (1991.

## [illegible]


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1990.

Bradley, D.W. Hepatitis non-A, non-B viruses become identified as hepatitis C and E viruses. *Prog Med Virol* 37:101–135, 1990.

Brown, E.A., R.W. Jansen, S.M. Lemon. Characterization of a simian hepatitis A virus (HAV): antigenic and genetic comparison with human HAV. *J Virol* 63:4932–4937, 1989.

Burke, D.S., G.B. Heisey. Wild Malaysian cynomolgus monkeys are exposed to hepatitis A virus. *Am J Trop Med Hyg* 33:940–944, 1984.

Cohen, J.L., S. Feinstone, R.H. Purcell. Hepatitis A virus infection in a chimpanzee: Duration of viremia and detection of virus in saliva and throat swabs. *J Infect Dis* 160:887–890, 1989.

Deinhardt, F. Hepatitis in primates. *Adv Virus Res* 20:113–157, 1976.

Deinhardt, F., I.D. Gust. L'hépatite virale. *Bull WHO* 61:199–232, 1983.

Deinhardt, F., J.B. Deinhardt. Animal models. *In*: Gerety, R.J., ed. *Hepatitis A*. New York: Academic Press; 1984.

Duermeyer, W., R. Stute, J.A. Hellings. An enzyme-linked immunosorbent assay for an antigen related to non-A, non-B hepatitis and its antibody: Partial characterization of the antigen and chimpanzee transmission. *J Med Virol* 11:11–21, 1983.

Eichberg, J.W., S.S. Kalter. Hepatitis A and B: Serologic survey of human and nonhuman primate sera. *Lab Anim Sci* 30:541–543, 1980.

Feinstone, S.M., A.Z. Kapikian, R.H. Purcell. Hepatitis A: Detection by immune electron microscopy of a virus like antigen associated with acute illness. *Science* 182:1026–1028, 1973.

Gust, I.D., A.G. Coulepis, S.M. Feinstone, *et al*. Taxonomic classification of hepatitis A virus. *Intervirology* 20:1–7, 1983.

Held, J. The public health implications of nonhuman primates in the transmission of hepatitis to man. *Proc Annu Meet Am Vet Med Assoc* 100:183–185, 1963.

Hepatitis A virus in primates outside captivity. *Lancet* 2:928–929, 1981.

Hoffman, M. Hepatitis A vaccine shows promise. *Science* 254:1581–1582, 1991.

Hollinger, F.B., D.W. Bradley, J.E. Maynard, G.R. Dreesman, J.L. Melnick. Detection of hepatitis A viral antigen by radioimmunoassay. *J Immunol* 115:1464–1466, 1975.

Kessler, H., K.N. Tsiquaye, H. Smith, D.M. Jones, A.J. Zuckerman. Hepatitis A and B at the London Zoo. *J Infect* 4:63–67, 1982.

Kissling, R.E. Simian hepatitis. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Lemon, S.M., J.W. LeDuc, L.N. Binn, A. Escajadillo, K.G. Ishak. Transmission of hepatitis A virus among recently captured Panamanian owl monkeys. *J Med Virol* 10:25–36, 1982.

Lemon, S.M., L.N. Binn. Antigenic relatedness of two strains of hepatitis A determined by cross-neutralization. *Infect Immun* 42:418–420, 1983.

Lemon, S.M., S.F. Chao, R.W. Jansen, L.N. Binn, J.W. LeDuc. Genomic heterogeneity among human and nonhuman strains of hepatitis A virus. *J Virol* 61:735–742, 1987.

Melnick, J.L. Classification of hepatitis A virus as enterovirus type 72 and of hepatitis B virus as hepadnavirus type 1. *Intervirology* 18:105–106, 1986.

Neefe, J.R., E.N. Willey. Hepatitis viral. *In*: Top, F.H., P.F. Wehrle, eds. *Communicable and Infectious Diseases*, 7th ed. St. Louis: Mosby; 1972.

Oubiña, J.R., O.H. Fay. Virus de hepatitis A, B, C, D y E. *In*: Carballal, G., J.R. Oubiña, eds. *Virología Médica*. Buenos Aires: El Ateneo; 1991.

Pattison, C.P., J.E. Maynard. Subhuman primate-associated hepatitis. *J Infect Dis* 132:478, 1975.

Smith, M.S., P.J. Swanepoel, M. Bootsma. Hepatitis A in non-human primates in nature. *Lancet* 2:1241–1242, 1980.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Hepatitis Surveillance*. Atlanta: CDC; 1972. (Report 34.)

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Hepatitis Surveillance*. Atlanta: CDC; 1973. (Report 35.)

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Nonhuman primate-associated hepatitis: Pennsylvania. *MMWR Morb Mortal Wkly Rep* 24:115, 1975.

World Health Organization (WHO). *Viral Hepatitis. Report of a WHO Scientific Group*. Geneva: WHO; 1973. (Technical Report Series 513.)

Zuckerman, A. J., A. Thornton, C. R. Howard, K. N. Tsiquaye, D. M. Jones, M. R. Brambell. Hepatitis B outbreak among chimpanzees at the London Zoo. *Lancet* 2:652–654, 1978.

# WESSELSBRON DISEASE [illegible]

**[illegible] ICD-10 A93.8**
**ICD-10 A93.8 Other specified arthropod-borne viral fevers**

[illegible]

[illegible] B [illegible] *Flavivirus* [illegible] Togaviridae [illegible] 50 – 40 [illegible]

[illegible]

[illegible] %50 [illegible] 36 [illegible] 54 [illegible] 17 [illegible] 83 [illegible] (Henderson *et al.*, 1970) [illegible] 141 [illegible] 48 [illegible] 9 [illegible]

[illegible]

[illegible] 4 – 2 [illegible] 3 – 2 [illegible]

[illegible] Rift Valley [illegible] 4 – 1 [illegible] 1957 [illegible] concurrent [illegible]

[illegible]

[illegible] (Coetzer and Theodoridis, 1982).
[illegible] 100%) (Baba *et al*., 1989).

[illegible] 50% [illegible] (Blackburn and Swanepoel, 1980).

[illegible] 1996 [illegible] (Jupp and Kemp, 1998).

[illegible] *Aedes circumluteolus* [illegible] *A. caballus* [illegible] *A. lineatopennis* [illegible]

[illegible]

*Desmodillus*

Williams *et al.*,) .(1997

Baba, S.S., A.H. Fagbami, S.A. Omilabu. Wesselsbron virus infection in West African dwarf goats (*Fouta djallon*): Virological and immunological studies. *Acta Virol* 33:81–86, 1989.

Blackburn, N.K., R. Swanepoel. An investigation of flavivirus infections of cattle in Zimbabwe Rhodesia with particular reference to Wesselsbron virus. *J Hyg (Lond)* 85:1–33, 1980.

Coetzer, J.A., A. Theodoridis. Clinical and pathological studies in adult sheep and goats experimentally infected with Wesselsbron disease virus. *Onderstepoort J Vet Res* 49:19–22, 1982.

Henderson, B.E., G.B. Kirya, L.E. Hewitt. Serological survey for arboviruses in Uganda, 1967–69. *Bull World Health Organ* 42:797–805, 1970.

Henderson, B.E., D. Metselaar, G.B. Kirya, G.L. Timms. Investigations into yellow fever virus and other arboviruses in the northern regions of Kenya. *Bull World Health Organ* 42:787–795, 1970.

Henning, M.W. *Animal Diseases in South Africa*, 3rd ed. Pretoria: Central News Agency; 1956.

Jensen, R. *Diseases of Sheep*. Philadelphia: Lea and Febiger; 1974.

Jupp, P.G., A. Kemp. Studies of an outbreak of Wesselsbron virus in the Free State Province, South Africa. *J Am Mosq Control Assoc* 14(1):40–45, 1998.

Justines, G.A., R.E. Shope. Wesselsbron virus infection in a laboratory worker, with virus recovery from throat washing. *Health Lab Sci* 6:46–49, 1969.

Karabatsos, N., ed. *International Catalogue of Arboviruses Including Certain Other Viruses of Vertebrates*, 3rd ed. San Antonio: American Society for Tropical Medicine and Hygiene; 1985.

Kokernot, R.H., V.M. Casaca, M.P. Weinbren, B.M. McIntosh. Survey for antibodies against arthropod-borne viruses in the sera of indigenous residents of Angola. *Trans R Soc Trop Med Hyg* 59:563–570, 1965.

McIntosh, B.M., H.J. Gear. Mosquito-borne arboviruses, primarily in the Eastern Hemisphere. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Salaün, J.J., A. Rickenbach, P. Brès, *et al.* Les arbovirus isolés à partir de moustiques au Cameroun. *Bull World Health Organ* 41:233–241, 1969.

Weiss, K.E. Wesselsbron virus disease. *In*: Dalling, T., A. Robertson, eds. *International Encyclopedia of Veterinary Medicine*. Edinburgh: Green; 1966.

Williams, R., M. Schoeman, A. Van Wyk, K. Roos, E.J. Josemans. Comparison of ELISA and HI for detection of antibodies against Wesselsbron disease virus. *Onderstepoort J Vet Res* 64(4):245–250, 1997.

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## ǏøǴƥƺǁǁƐ ǏǂǐƢǁǁƐ ƵƒDžǭǁǁƐ ƒƝǇǂǁǁƐ
## WESTERN EQUINE ENCEPHALITIS

**ACD-10 A83.1**

·ƟøǣÀ8ǒă ȟÀŋǼǒă āÀƬǪǒă ÛƟøǣÀ8ǒă ƟŸƐʅă ţÀÅǒş ȟÀŋǼǒă āÀƬǪǒă ˙ğÀȥáăÀţă

ÈAƨ ƟŁǪA ÛƙÕă ɃşÀǿø âşƘȥ ÛƟøǣÀ8ǒă ƟŸƐʅă ȟÀŋǼǒă āÀƬǪǒă âşƘȥ ˙ğÀƐǦÊǒă ğÀèşƘAǒă ǦŸƐÔȥ Û(ǞǒǣÀè ğÀŸÔAţǣ ǦǒȥÕAţă ǦèşƘAǒă ȸŋ A Ǧȝȥŧ Õă) *ǦǀşÀǒɉă ǦèşƘAǒă* ƟŸƐʅă ȟÀŋǼǒă āÀƬǪǒă âşƘȥ ·ôȥǨǦǒÀǣ ǦǒȥÕAţă ğÀèşƘAǒă ǼÕȞư Ž ȥȒȝ ȥŁş ÛǦƎǝÀÅÛǒă ȻØŁ ȸŋ ǼAǼȞǒă ·ǦÕƐǭş ǦŸò ğăǣ Àǹǔ ǣèşƘȥ 14 ȸŧȒǪA ɃǼȒǪÊŋ ǼÕȞŋ ȸŋ ǒÀDZ ƟøǣÀ8ǒă

[illegible] Aura [illegible] (Highlands J) [illegible] pathogens [illegible] (Calisher *et al.*, 1988) [illegible] neurovirulent [illegible] neuroinvasive [illegible] 5 [illegible] Bianchi *et al.*,) [illegible] (1993.

[illegible]

[illegible] 941 [illegible] 1978 [illegible] 1955 [illegible] 1976 [illegible] 4 [illegible] 133 [illegible] 1975 [illegible] (CDC, 1981 and 1982) [illegible] 1982 [illegible] 1941 [illegible] 3.000 [illegible]

[illegible] 1.150 [illegible]

Æęş Ûğăʐ Àè 5 ȸè ЌƠ ȯÀÀùɟă Žş ÛÀȶȞŏă ȸŋ ǦÀè 15 àʐʐ ĝÀȚȶƨă Ž ȟÀŋÆŏă āÀȚǪŏă
î ăÀǪŏă ÙĒǦǯ ğăøÀǦǪǹă ÿăÆÅǪèÀǟ ǦĒǱʐòşƘÊŏă ğÀğʐÊţă ğÀȚşǗ ·58:1 øǟ ǦǤÊÀŏă ğøÆę
ĘùÀÀţă Ž ĂÆǱ ǦĒŏÀȝ ğÀÀʐǪÊŋ БǗ ŌÔÀ Æęş ÛƘ8ǪÀ ğŸȝÀÀţă øÀÎǪǟă ȷǗ ȯăÆȞǪèɍăş Ƀʐŋ Æŏă
·ȸùʐǪŏă ǦùÀÀţă

ǦÀè Ōõ ŌĒʅă Ž ôÀţă ȸŋ ǦÀăăÀʐ ğɍÀğ şǗ ğÀʐăʐè ÆǱʐǩ :ğÀǪăʐĒΣă Ž ǫşÆΣă
ÆĒòǗ 1938 ÿÀȝ Žş ÛŌĒǹ 174.000 ÆĒòǗ :1937 ÿÀȝ ȖÀʐ ·ĝÆȞǪţă ğÀÀɍʐŏă āÀȡ
ȷÀõ 1970 – 1966 ȖŋÀȝ ƙǟş ·ȖøǟÀ8ŏă şǗ ȖęÀÎŏă ŌĒʅă ȟÀŋÆŏă āÀȚǪŏÀǟ ŌĒǹ 184.000
ȟÀŋÆŏă āÀȚǪŏă âşƘʐ ·ÀȚÀŋ 1.773 ğÀŋş ȯʐĒʅă Ž ȟÀŋÆŏă āÀȚǪŏă ȸŋ ǦŏÀğ 7.638 õÀÀȽ
ǦÀÀÎǟ ğɍÀğ ȸȝ ŋŸǦÀ Ɓ ȼǪǗ ȴȡø ·ğɍÀΣă ȻØȽ ȸŋ ƘǦõ åÆȝ ȸȝ ȯşűÊŋ ȖøǟÀ8ŏă ȖŸĒʅă
ǦĒǱʐòşƘÊŏă ğÀğʐÊţă ğÀȚşǗ ·ŌĒʅă Ž ğɍÀğ 9 ȸȝ ȟŸǟǗ Ź ȼǪǗ ɍǗ Û1992 ÿÀȝ
·ȸùʐǪŏă ǦùÀÀţă ĘùÀÀţă Ž ğŸȝÀÀţă ȸŋ ĂÆǱ ǦĒŏÀȝ ğɍÆȞŋ ȯăÆȞǪèɍă øÀǦǪǹă ÿăÆÅǪèÀǟ
ğÀÀɍʐŏă āÀȡ Ž ĂȒÀǗ (ȯÀȞʐ) ÙĒÎǪ J ăÆǪŸÀÀȽ âşƘʐ ʐȽş ÛÆŌȞţă ȄÀǪ Ž ÀǹǗ âşƘʐ
ȸŋ ·ǦÀÀÎǟ ǦŏÀğ ɃǗ ÆǦÊÀ Ɓ ȼǪǗ şÆǦÀş ÛŌĒʅă Ž ôÀţă ÆǦÊÀ Àŋ ĂøåÀǪ ȸȮŏ ÛĝÆȞǪţă
ŏÀǯǪèÀǟş ÛȖÊŸùɟă ÙĒŧă ùùÀì Ž ǫÆƠ ȖŸĒʅă ȟÀŋÆŏă āÀȚǪŏă ȸŋ ğɍÀğ ȷǗ ȯʐǦŌţă
âşƘÀŏ ğɍÀΣă ȻØȽ ɁÀȞǩ ÛȖøǟÀ8ŏă ȖŸĒʅă ȟÀŋÆŏă āÀȚǪŏă âşƘʐ ȸȝ ǦȐÀÀŏă ŌŸǩ
ȸŋ ȖøǟÀ8ŏă ȖŸĒʅă ȟÀŋÆŏă āÀȚǪŏă âşƘʐ åÀÀǪèă ·(Karabatsos *et al.*, 1988) J ăÆǪŸÀÀȽ
ŌĒǹ 300 āÀòǗ 8ăʐè ǫÆğ :ƙǪǱøɟă ȖÀʐ ÛɃăʐȡøşɟăş ŌÀăăƎŏăş ƙǪǱøɟă Ž ȯʐĒʅă
ÀŌÀÀŋǗ ÿʐȶȝ ÂõÀŋ) ĂŏǟÀè ÀȚĒʐ ǫÆȜ Ɓ ȴĒŏÀęǗ Ž ôÀţă ЌǦǪş ·1983 ǦÀăÆǟş 1982 ÀǹăşǗ
ȖŸĒʅă ȟÀŋÆŏă āÀȚǪŏă ȸȝ ǦȐÀǪ ğÀʐăʐè ЌǪÆğ Æęş ·(1983 øÆÔţă ǦĒǪăʐĒΣă ôăÀŋǬŏ
:1973 – 1972 ʐĒò Ž ·ȸÀÀÎȞŏă ȷÀŌŏă ǦÀăÆǟ ØÀŋ ǦÀŸǪƯ ŌòăʐÀǟş ÛƙǪǱøɟă Ž ȖøǟÀ8ŏă
ÆȞǟş ÛɃăʐȡøşɟăş ƙǪǱøɟă Ž ǦŏÆǪȞţă ĘùÀÀţă ȸŋ ǦȞèăş ǦğÀÊŋ ȝŸȝ ÆǪŋă 8ăʐè ǫÆğ
âşƘʐ ȸȝ ǦȐÀǪ ÀŒǗ ôÀǪÀÀ ğɍÀğ 5 õÀÀȽ ȷÀõ 1985ş 1983 ȖŋÀȝ ƙǟş 8ăʐÊŏă ăØȽ
åăÆȑɟă øÀÎǪǟă õÀÀȽ ȷÀõ ·ĝøűǟ 13 ȸŋ ĂȒÀÀŋ ŸĒǹ 16 ƙǟ ȖøǟÀ8ŏă ȖŸĒʅă ȟÀŋÆŏă āÀȚǪŏă
·ǦǤùÀę ȴĒŸęǗ Ž %4ş 1982 8ăʐè ÛÆǟ ǬĒğ ÛŽÀǪǟÀè ȴĒŸęǗ Ž %13 ĝÀʐÀʅă ǦÀÔğɟă Ž

[illegible] (Aviles *et al.*, 1993) [illegible] %40 [illegible]

[illegible] 10 – 5 [illegible] 10 – 7 [illegible] %14 [illegible] %3 [illegible]

[illegible] 3 – 1 [illegible]

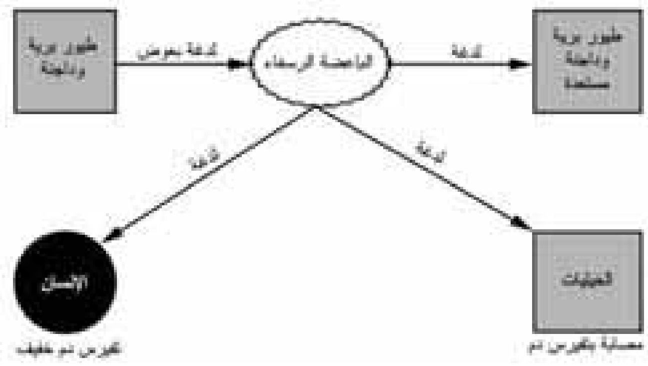
%20 ... .%50 ... %30

... (31 ... passerines ... 15 ... 10 ...

*Culex tarsalis* ... *Aedes dorsalis* ... Monath and) ... .(Trent, 1981 .(Hardy *et al.*, 1979) ...

āÀŢǫöä Ž ÀŁóşá ȸ3 ĒÆDZ ʐŸǬƯ ô ÀţäŁ ğÀĒəÀæş Ž òʐĒʅä óşá ˙Õö Øæş ·ǦĒèÀèjä ǦŧŸõ ӯäÆÅǫèä jǓ · ô ÀŧŸö ǦŧŢŋ ğÀŧÅRŧõ ȼĒʐ ӯÆơ ǪĒǵ ÛƟŸĀşÂøÀÀöä ƟŸĒʅä ȟÀŋÆöä ÙÕʐ ǨKǓ ƟęÀÎöä ƟŸĒʅä ȟÀŋÆöä āÀŢǫöäş ƟøæÀ8öä ƟŸĒʅä ȟÀŋÆöä āÀŢǫöä ʆèä Ž "ƟŸĒǹ" jǓ ƟøÀȞÀ ɍ äØŁ jǓ · ţʐÀöä äØŁ Ž Ƃşjä ǥÀţ åÀÀǫèä âşKÀöä jǓ ˙ǦŸəÀÕöä ǦÕĒÕΣä ȸŋ ·ƟøǦǦÊöä ÕŋÀȞöä ţáʐǫÊŋ òʐĒʅä

·òÀÕǫɍä ǦÕŸǵ – ƟøæÀ8öä ƟŸĒʅä ȟÀŋÆöä āÀŢǫöä ·31 ÕÒÎöä



jǓ ʔŸ3 ğäÀìúŋ õÀÀŁ ȸÒö ÛÆĒDZ ÕÒÎæ ǦʐşÀȞŋ Kȡ ŏÀǫÎöä ǦĒRȹ Ž âşKÀöä ǦĒöǓ ʔȞʐǓ 84 ȸŋ 37 ӯá ȸŋ ǥÆȞǫţä ğÀÀɍʐöÀæ ÀŁşǓ Ž âşKÀöä åÀÀǫèä ·ĒöşáÆȞŸǨÆę ʐǵäşÂöä ǨÔȞʐş ğÀèǓ (*Pituophis*ş *Thamnophis, Coluber*ş ÌÀΣä) ǦÀŸǬƯ âÀÀDZǓ ǦǫŸǫ ȸŋ ǦDZøá Ž ğ ɍÆǦǨ 3ŋ ÀŢŢÀ Û*cyclical* Ƀóşá ğÀǫäʐĒΣä ȻØŁ Ž ӯÆöä âKÀǨ ·3ĒæÀöä ǦÀäÆæ Ž ÀŋÆÀ3 óʐŢŢöä áşÀȞÀ ȼÀÒö Û(Ƀʐǫ Îöä ğÀĒǦöä) ŏÀǫìqä òŸǹ ӯÆöä âKÀǨ ƟÀǫƸ ·ÙĒŧä ǥøäÀǵ ǦÀʐÀŋ ǦǦÊɸ ŏäÆ3q ƟÀÒÀ Àŋ ǦĒöÀ3 ğÀÀʐǫÊŋ ƂǓ ÕÔÀş ÛţÀÀǨóɍÀæ ÙĒŧä ǥøäÀǵ ǦDZøá ÛÆǦǨ Ž ·ĒRÀǓ ǦÀÆȞÀţä Ƣ3Àʐjä ȻØŁ ÕÊɸ Ž ӯÆöä âKÀǨ ÆDZş Àŧõ ·*öÀ8èÀöä ǦR3ÀǦöä* ȸŋ ǥKǦõ ţáÀÀRöä ȸŋ Õ̃öØõş *Thamnophils* ÈÀDZ ȸŋ Ƣ3ÀʐJä ȸŋ âşKÀöä åÀÀǫèä ˙äÆÀõ Ź Ē3ÆÀȑ 179 ȸŋ 50 Ž ǦöÆȞǫÊţä åäÆȑjä ğÆDZş ·(*Rana pipiens* *ÖæÀÀöä ţÆÀRöä*) ǦĒöɇä ƟŁ ğÀĒəÀŋƎöäş ʐǵäşÂöä Ž ʔşÆȞöä jüæ KǦõ Õì õÀÀŁ òääÀŋ ˙Õöæ 3ŋş ÛÀŢÔȞʐ ȸŋ âşKÀöä ȸŋ Ƀóäóæ ǫŸǫ ğåÀÀǫèä ·ŏÀǫÎöä Ž ȼÊÀɸ ʔŸ3 âşKÀöä ÀŢĒʐ ȘʐÀ3 Ɵøǫöä

[illegible] *Ades dorsalis* [illegible] .(Fubhorst *et al*., 1994) [illegible]

[illegible] *culiseta inornata* [illegible] .(Monath, 1979) [illegible]

*Culiseta* [illegible] *melanura* [illegible] Hayes and Wallis,) [illegible] .(1977

[illegible] *Culex ocossa* (Sirivanakarn and Jakob, 1981) [illegible] *Aedes albifasciatus* [illegible] 16 – 9 [illegible]

Aviles *et*) ... *Aedes albifasciatus* ... .(*al*., 1992

.(Walton, 1992) ... 4

Calisher *et al*.,) M ...

.(1986

... %80 ... (%43.8 ... (%56.3 ... %90 ... presumptive ...

.(Calisher *et al*., 1983)

[illegible] 10 – 7 [illegible] – *ablifasciatus* [illegible]

## [illegible]


Andrewes, C., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Aviles, G., M.S. Sabattini, C.J. Mitchell. Trasmission of western equine encephalomyelitis virus by Argentine *Aedes albifasciatus* (Diptera: Culicidae). *J Med Entomol* 29:850–853, 1992.

Aviles, G., T.I. Bianchi, J.F. Daffner, M.S. Sabattini. Actividad post-epizoótica del virus de la encefalitis equina del oeste en la Argentina. *Rev Argentina Microbiol* 25:88–99, 1993.

Bianchi, T.I., G. Aviles, T.P. Monath, M.S. Sabattini. Western equine encephalomyelitis: Virulence markers and their epidemiologic significance. *Am J Trop Med Hyg* 49:322–328, 1993.

Bruner, D.W., J.N. Gillespie. *Hagan's Infectious Diseases of Domestic Animals*, 6th ed. Ithaca: Cornell University Press; 1973.

Calisher, C.H., J.K. Emerson, D.J. Muth, J.S. Lazuick, T.P. Monath. Serodiagnosis of western equine encephalitis virus infections: Relationship of antibody titer and test to observed onset of clinical illness. *J Am Vet Med Assoc* 183:438–440, 1983.

Calisher, C.H., M.I. Mahmuel, A.O. el-Kafrawi, J.K. Emerson, D.J. Muth. Rapid and specific serodiagnosis of western equine encephalitis virus infection in horses. *Am J Vet Res* 47:1296–1299, 1986.

Calisher, C.H., N. Karabatsos, J.S. Lazuick, T.P. Monath, K.L. Wolff. Revaluation of the western equine encephalitis antigenic complex of alphaviruses (family Togaviridae) as determined by neutralization tests. *Am J Trop Med Hyg* 38:447–452, 1988.

Casals, J., D.H. Clarke. Arboviruses: Group A. *In*: Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1975.

Centro Panamericano de Zoonosis. Informe encefalomielitis (Argentina). *Comunicaciones Epidemiológicas 3*, May 1983.

Chamberlain, R.W. Arbovirus infections of North America. *In*: Sanders, M., M. Schaeffer, eds. *Viruses Affecting Man and Animals*. St. Louis: Green; 1971.

Downs, W.G. Arboviruses. *In*: A.S. Evans, ed. *Viral Infections of Humans: Epidemiology and Control*. New York: Plenum; 1976.

Fulhorst, C.F., J.L. Hardy, B.F. Eldridge, S.B. Presser, W.C. Reeves. Natural vertical transmission of western equine encephalomyelitis virus in mosquitoes. *Science* 263(5147): 676–678, 1994.

Gebhardt, L.P., G.J. Stanton, D.W. Hill, C.G. Collet. Natural overwintering hosts of the virus of western equine encephalitis. *New Engl J Med* 271:172–177, 1964.

Gebhardt, L.P., S.C. Jeor, G.J. Stanton, D.A. Stringfellow. Ecology of western encephalitis virus. *Proc Soc Exp Biol Med* 142:731–733, 1973.

Gutekunst, D.E., M.J. Martin, P.H. Langer. Immunization against equine encephalomyelitis with a new tissue culture origin vaccine. *Vet Med Anim Clin* 61:348–351, 1966.

Hardy, J.L., W.C. Reeves, W.A. Rush, Y.D. Nir. Experimental infection with western encephalomyelitis virus in wild rodents indigenous to Kern County, California. *Infect Immun* 10:553–564, 1974.

Hardy, J.L., W.C. Reeves, J.P. Bruen, S.B. Presser. Vector competence of *Culex tarsalis* and other mosquito species for western equine encephalomyelitis virus. *In*: Kurstak, E., ed. *Arctic and Tropical Arboviruses*. New York: Academic Press; 1979.

Hayes, R.O., L.C. LaMotte, P. Holden. Ecology of arboviruses in Hale County, Texas during 1965. *Am J Trop Med Hyg* 16:675–687, 1967.

Hayes, C.G., R.C. Wallis. Ecology of western equine encephalomyelitis in the eastern United States. *Adv Virus Res* 21:37–83, 1977.

Holden, P., D.B. Francy, C.J. Mitchell, R.O. Hayes, J.S Lazuick, T.B. Hughes. House-sparrows, *Passer domesticus* (L.), as hosts of arboviruses in Hale County, Texas. I. Field studies, 1965–1969. *Am J Trop Med Hyg* 22:244–253, 1973.

Hughes, J.P., H.N. Johnson. A field trial of a live-virus western encephalitis vaccine. *J Am Vet Med Assoc* 150:167–171, 1967.

Karabatsos, N., A.L. Lewis, C.H. Calisher, A.R. Hunt, J.T. Roehrig. Identification of Highlands J virus from a Florida horse. *Am J Trop Med Hyg* 39:603–606, 1988.

Monath, T.P. Arthropod-borne encephalitides in the Americas. *Bull World Health Organ* 57:513–533, 1979.

Monath, T.P., D.W. Trent. Togoviral diseases of domestic animals. *In*: Kurstak, E., C. Kurstak, eds. *Comparative Diagnosis of Viral Diseases*. New York: Academic Press; 1981.

Sirivanakarn, S., W.L. Jakob. Notes on the distribution of *Culex* (*Melanoconion*) mosquitoes in northeastern Argentina (Diptera: Culicidae). *Mosq Syst* 13:195–200, 1981.

Theiler, M., W.G. Downs. *The Arthropod-borne Viruses of Vertebrates*. New Haven: Yale University Press; 1973.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Neurotropic Viral Diseases Surveillance. Annual Summary, 1972*. Atlanta: CDC; 1974. (DHEW Publ. CDC 75–8252).

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Current trends in arboviral diseases. United States, August 1974. *MMWR Morb Mortal Wkly Rep* 23:293–294, 1974.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral infections in the United States. *MMWR Morb Mortal Wkly Rep* 25:116, 1976.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Encephalitis Surveillance. Annual Summary 1978*. Atlanta: CDC; 1981.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Arboviral encephalitis: United States, 1982. *MMWR Morb Mortal Wkly Rep* 31:433–435, 1982.

Walton, T.E. Arboviral encephalomyelitis of livestock in the western hemisphere. *J Am Vet Med Assoc* 200:1385–1389, 1992.

Work, T.H. Western equine encephalomyelitis. *In*: Beeson, P.B., W. McDermott, J.B.Wyngaarden, eds. *Cecil Textbook of Medicine*, 15th ed. Philadelphia: Saunders; 1979.

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## WEST NILE FEVER [illegible]

### ICD-10 A92.3

[illegible] [4] [illegible] *Flavivirus* [illegible] 53 [illegible] Eg 101 [illegible] 4 [illegible] 5 [illegible] .(Morvan *et al.*, 1990)

[illegible] 1 WN [illegible] lineages [illegible] 2 WN [illegible] enzootic [illegible] 1 WN [illegible] 1996 [illegible]

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4 [illegible] B [illegible]

[illegible] 1998 [illegible] (ROM96) [illegible] ROM96 [illegible] (Isr98) 2000 [illegible] 1997 [illegible] NY99 [illegible] NY99 [illegible] .(Petersen and Roehring, 2001)

[illegible]

[illegible] 1999 [illegible] Nash *et al*.,) [illegible] (2001 [illegible] 900 [illegible] 2000 [illegible] 12 [illegible] .(Marfin *et al*., 2001) [illegible]

[illegible] .(Tesh, 1982) [illegible]

[illegible] 1974 [illegible] %55 [illegible] .(McIntosh *et al.*, 1976) [illegible] %16 [illegible] 1.168 [illegible] %61 [illegible] .(Taylor *et al.*, 1956) [illegible] 237 [illegible] %55 [illegible] %50 [illegible] 1983 [illegible] 156 [illegible] %13 [illegible] %8 [illegible] 1985 [illegible] .*Culex tritaeniorhynchus* [illegible] Sugamata *et al.*,) [illegible] .(1988 [illegible] 375 [illegible] 183) [illegible]

[illegible] 6 – 3 [illegible] 6 [illegible]

[illegible] .%25 [illegible] %10 [illegible] 1964 – 1962 [illegible] (*Corvus corone sardonius*) [illegible] .(Taylor *et al.*, 1956) [illegible]

[illegible] (32 [illegible] *Corvus corone*) [illegible] (*Calumba livia*) [illegible] (*Sylvietta rufescens*) [illegible] crombec [illegible] (*sardonius* [illegible] (*Streptopelia turtur*) [illegible]

[illegible] .*Culex* [illegible] *univittatus*

[illegible] *vishnui* [illegible] *molestus* [illegible] argasid [illegible] *Aedes anopheles* [illegible] ixodid [illegible]

[illegible] *univittatus* [illegible] sentinel [illegible] *Aedes albopictus* [illegible] Abassy *et al.*,) [illegible] (Baqar *et al.*, 1993) *tritaeniorhyncus* [illegible] (Abassy *et al.*, 1993) [illegible] *Argas arboreus* [illegible] (1993

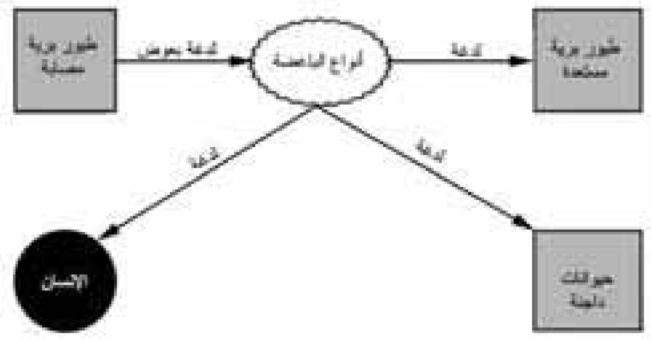
[illegible] corvids [illegible] (*Corvus brachyrhnchus*) [illegible] 1999 [illegible] %100 [illegible] 1955 [illegible] NY99 [illegible] *Passer*) [illegible] (*Corvus corone*) [illegible] 101 [illegible] (*domesticus*

[illegible] 2000 [illegible] 1999 [illegible] 5 [illegible] 2000 [illegible] 14 [illegible] *pipiens* [illegible] (nucleic [illegible]) [illegible] *restuans*

ȯÀƚÎöä Ž ÈÀζö ǨφÀÊöä ȟÀŋÆöä āÀŢöä âşƘζ ɁŸ3 ǦŢζÀǂä øζĬÛöÀæ Ǧ3ζöζöä (ǦĦəÀÎöä) ȯÀϙÀÕ ōøζÀζĬφ ǦÀÀÆŋ ǦÕÛÀŋ Ž ǦƚŢţä ğäÆĿÀÎţä ɁÆğǕ ·ğÆĦϘţä ğÀɍζöä ȸŋ ɄęÀÎöä ğÀÂǅ Ž *Cx. salinarius* ǦΣÀţä ǦȒ3Àǵöä ğøäÂɖş âşƘÀöÀæ ɁşÆĦŸö ǦĬöÀĦöä ğɍÆĦŋ ÕȯÎæş Ûţζÿöä äØĿ ɁØ8ϘÀ ·ǦÀÀÎǵöä ǦĬĭÀÀöä 3ŋ ĬϘęǘŋ ȸŋäÀǩ ɃØöäş Û2000 ÿÀ3 Ž ɄøϘÀϘè ·ğÀĿÀÆǯöäş øζĬÛöä ȸŋ ÕŌ ɁŸ3 ÛáşÆŢ Ƙɖ

ȸŋ ÕÕϘÀÀ øÆÔţä ɄøφäζĬğ ôÀŋ ŌĬÀöä āÀɖ ɁƤ ·ôÀţä ğÀĬəÀæş Ž ğÀφäζĬΣä øşå ɉÀÊφqä ·*Culex* ǦȒ3Àǵöä ÈÀDZ ȸŋ ôζĦǵöä ǦüÀèζæ ɁÀǹǰä ğÀφäζĬΣäş ɉÀÊφqä ɃǕ øζĬÛöä ·ŌŋÀĦŸö ǦĬèÀèǰä ǦÕŸΣä Ž ǇĿÀÊǩ ɍş Ûâ şƘÀŸö ÙŌζ Ǧȑ øÀ3 öÀÀζǕ ǦĬĭÀţäş ÿÀÀɖǰäş ŌĬǇäş ɄĿş ÛǦĬĭÀţä Ž ĬĢəÀɖ ɉζÒÀ Æęş ÛɁζϘÊţä ȐÀÂÀŋ ǦĬĭÀţäş ÿÀÀɖǰäş ŌĬǇä Ž ÿÆöä âƘÀǩ ɃÀ3 ÿá âƘÀǩ ǦÀƎöä øζĬÛöä ɁÆö ÆDZζÀ ·ɁÀǹǕ ǦĬğÀφ ȸŋ ·ŌęÀÀöä öäÆ3Ǖ ɁŸ3 ğøåÀę Ƙɖ ğäáäÀÕöäş ôζĦǵöä ȸŋ ğÆÀÆ3 ţäζφǕ ɉǕ ĬĢÀÀΘ ǨǴϘ ÆŌö ·ţáζϘÊƚō ÿÆơ ɉǕ ȸÒζş ÛøÀĬĦöä ·ĬĦŋ ŌęÀφş ţáζϘÊƚō ÿÆơ ɉǕ ɁŸ3 ğøåÀę ǦĬŋäƎöä

·ȯÀÕϘɍä ǦÕŸğ – ŌĬÀöä āÀɖ ɁƤ ·32 ÕȯÎöä



øζÛöä Ž ɁȑÀŋ ȸŋ ÿá ǴĬÕŸϘæ âşƘÀöä åäÀÀϘèä ȸŋ ɃƎϘÁţä ÆĬōζϘöä ɉζȯϘÀ ·ȬĬÁÎϘöä ·ÕÔţä ȯÀÆĦϘèä øÀǴϘǹä ǦüÀèζæ ÛɄÊĬəø ÕȯÎæş ÛɄŸÔţä āŸÕφɍÀæ şǕ ÛɉäÀÀÀöä Ž åÀΣä âşƘÀöä ȸ3 3ÀÀÊöä ζÎÒŸö äăƘƚĬöζǵöä ǦŸÊŸè Õ3ÀÀϘö ǦÊÀÀÕŋ ğøζü ·ÕöÆ ɃǕ ǦζÀȑǕ

.(Porter *et al.*, 1993)

[illegible]

[illegible]


Abassy, M.A., M. Osman, A.S. Marzouk. West Nile virus (Flaviviridae: Flavivirus) in experimentally infected *Argas* ticks (Acari: Argasidae). *Am J Trop Med Hyg* 48:726–737, 1993.

Andrewes, C.H., H.G. Pereira. *Viruses of Vertebrates*, 3rd ed. Baltimore: Williams & Wilkins; 1972.

Baqar, S., C.G. Hayes, J.R. Murphy, D.M. Watts. Vertical transmission of West Nile virus by *Culex* and *Aedes* species mosquitoes. *Am J Trop Med Hyg* 48:757–762, 1993.

Clarke, D.H., J. Casals. Arboviruses: Group B. *In:* Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

Eidson, M., N. Komar, F. Sorhage, R. Nelson, T. Talbot, F. Mostashari, *et al.* Crow deaths: A sentinel surveillance system for West Nile virus in the northeastern United States. *Emerg Inf Dis* 7:748–750, 2001.

Goldblum, N. Group B arthropod-borne viral disease. *In:* van der Hoeden, J., ed. *Zoonoses*. Amsterdam: Elsevier; 1964.

Joubert, L., J. Oudart. La meningoencefalitis equina por el virus del Nilo occidental en la zona mediterránea de Francia. *Bull Soc Sci Vet Med Comp* 76:255, 1974. Summary *Sel Vet* 16:675, 1975.

Marfin, A.A., L.R. Petersen, M. Eidson, J. Miller, J. Hadler, C. Farello, *et al.* Widespread West Nile virus activity, eastern United States, 2000. *Emerg Infect Dis* 7:730–735, 2001.

McIntosh, B.M., J.H. Gear. Mosquito-borne arboviruses, primarily in the Eastern Hemisphere. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

McIntosh, B.M., P.G. Jupp, I. dos Santos, G.M. Meenehan. Epidemics of West Nile and Sindbis viruses in South Africa with *Culex univittatus* Theobald as vector. *S Afr J Sci* 72:295–300, 1976.

Morvan, J., D. Fontenille, T.G. Besselear, P. Coulanges. Utilisation des anticorps monoclonaux pour l'analyse antigénique des souches de virus West Nile isolée a Madagascar. Apport pour la compréhension du cycle épidémiologique. *Arch Inst Pasteur Madagascar* 57:167–181, 1990.

Morvan, J., L.H. Chin, D. Fontenille, I. Rakotoarivony, P. Coulanges. Prevalence des anticorps anti-virus West Nile chez les jeunes de 5 à 20 ans a Madagascar. *Bull Soc Pathol Exot* 84:225–234, 1991.

Nash, D., F. Motashari, A. Fine, J. Miller, D. O'Leary, K. Murray, *et al.* Outbreak of West Nile virus infection, New York City area, 1999. *N Engl J Med* 344:1807–1814, 2001.

Nir, Y., R. Golwasser, Y. Lasowski, A. Avivi. Isolation of arboviruses from wild birds in Israel. *Am J Epidemiol* 86:372–378, 1967.

Petersen, L.R., J.T. Roehrig. West Nile virus: A reemerging global pathogen. *Emerg Infect Dis* 7:611–614, 2001.

Porter, K.R., P.L. Summers, D. Dubois, *et al.* Detection of West Nile virus by the polymerase chain reaction and analysis of nucleotide sequence variation. *Am J Trop Med Hyg* 48:440–446, 1993.

Sugamata, M., A. Ahmed, T. Miura, *et al.* Seroepidemiological study of infection with West Nile virus in Karachi, Pakistan, in 1983 and 1985. *J Med Virol* 26:243–247, 1988.

Taylor, R.M., T.H. Work, H.S. Hurblut, F. Rizk. A study of the ecology of West Nile virus in Egypt. *Am J Trop Med Hyg* 5:579–620, 1956.

Tesh, R.B. West Nile fever. *In:* Wyngaarden, J.B., L.H. Smith, Jr., eds. Vol. 2: *Cecil Textbook of Medicine*, 16th ed. Philadelphia: Saunders; 1982.

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## YELLOW FEVER ƀƐƥƨƬǁƐ ĂDžƟǁƐ

### ƕĭƥƮƟǁƐ ƀƐƥƨƬǁƐ ĂDžƟǁƐ A95.1 ǕƕĩƜƥƟǁƐ ƀƐƥƨƬǁƐ ĂDžƟǁƐ ICD-10 A95.0
### ICD-10 A95.0 Sylvatic yellow fever; A95.1 Urban Yellow Fever

.Black vomit åǫèǰä öÀĘÕöä ˸ğÀǫåäÀţä

*Ǵèşǩàöä* ÈÀDZ ǳŋ ȧÀÛöä åÀÀŋ ƙŎä ɃşÀǿø âşǨǫ ÛöäÀÀÔöä ɁȽΣä âşǨǫ ˸ğÀĘĢĢÊöä ĞŸĘÔǫ Û[5](ĞÕäÀè ğÀĘŸÔÀţÀä ĞöǫÕÀţä ĞèşǨÀöä ǳŋ B Ğ3ǫȽÕä) *Flavivirus gÄÀÔţä* ȧÀǫ õÀÀŁ ˑôǫĤĢöÀä ĞöǫÕÀţä ğÀèşǨÀöä ÆÕĤŋ ƂǕ ĞĘȽǪÀţä Flaviviridae gÀÀÔţä ğÀèşǨÀöä Õõ Ȭĵŋ (ȣ¥ȡ ¢ö) ǫŸȣŋ ɉǫÀǨÀöä ˑĞĘȮÀÀŋǰäş ĞĘÕÀÀǫǰä ɃøäøǾöä ƙä ɃÆȒǪÊŋ 3ŋ ğäÆȒǪÊţÀä âşǨÀöä äØŁ õøÀÎǪÀ ˑĞÀÛę ÀǪŋǫǿÀǿ 40 ƃäǫğ ÈĘÕÀş ÛgÀÀÔţä ğÀèşǨÀöä ˑÀŁǨȡş ÕǿÆöäş ɉşƎÊŸĘèş ÕĘÀöä äÀȡ ğÀèşǨǫ

ˑĞÆäÛ ƙǪĘȮÀÀŋǰäş ÀĘÕÀÀǫÛ ǯøÀǹ ĞÀüǫǪŋ öäÀÀÔöä ɁȽΣä ǴĢÔǨ B ˸ŽäÀȣƨä ţäǫǪöä *Aedes ĞÀÄÔţä ĞDzǯäÀöä* ĞüÀèǫä ÀÎĢöä ƙä ĞŸÕǪÀţä ÛĘÕäÀè ĞÀÀȒΣä öäÀÀÔöä ɁȽΣä ĶǿÀõ ÛĘÕÀğ ÀŋÛ ÛƙǪÀDZøǰä ƂǕ gÆĦǪţä ğÀÀɍǫöä ȧÀÌ ǳŋ ƙǪĘȮÀÀŋǰä Ž (ĞĢĘÔŋ) ĞǭøÀõ *aegypti*

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[5] ğÀèşǨÀöä ĞŸĘÔǫ ƂǕ ğÀĘŸÔÀţÀä ĞöǫÕÀţä ĞèşǨÀöä ǳŋ B Ğ3ǫȽDzȽŸö ĞÕäÀè ĞĘȽǪÀţä gÀÀÔţä ğÀèşǨÀöä Õõ ĶŸÕǿ ˑĞĘǝÀÅÛöä ğÀèşǨÀöä ĞŸĘÔǫ ǳŋ gÀÀÔţä

[illegible]

[illegible]

[illegible] 1950 [illegible]

[illegible] 1954 [illegible] 1942 [illegible]

[illegible]

[illegible] 200.000 [illegible] %90 [illegible] 30.000 [illegible] 1983 [illegible] 1965 [illegible] 2.252 [illegible] (Mutebi and Barrett, 2002) [illegible] 304 [illegible] 1966 [illegible] 183 [illegible] 368 [illegible] (%49.7 [illegible] 1982 – 1981 [illegible] 1981 [illegible]

[illegible] %70 [illegible] 211 [illegible] 235 [illegible] 1987 [illegible]

[illegible] 179 [illegible] – 170 [illegible] .(WHO, 1989) [illegible] 69 [illegible] 88 [illegible] 1989 [illegible] 191 [illegible] 237 [illegible] 175 [illegible] 1992 [illegible] 81 [illegible] 119 [illegible] 1991 [illegible] 90 [illegible] 151 [illegible] 1990 .(WHO, 1995) 1993 [illegible] 79

[illegible] 1973 – 1972 [illegible] 1:9 [illegible] Pinheiro *et al.*,) [illegible] 44 [illegible] 71 [illegible] .(1978 [illegible] B [illegible] 39 – 20 [illegible] *Haemagogus* [illegible] 1998 [illegible] Vasconcelos *et al.*,) [illegible] 8 [illegible] 24 [illegible] 8 [illegible] 23 [illegible] 1999 [illegible] 77 [illegible] 2000 [illegible] .(2001b .(Vasconcelos *et al.*, 2001a) 39 [illegible]

[illegible]

1960 ... 1947 ... 12 ... %80 ...

... (Woodall, 1981) ...

... (Groot, 1980) ...

... inactivity ... 1979 – 1978 ... 1981 ... 30 ... 19 ... 1979 – 1978 ... %96.4 ... 5 ... 10

.(CDC, 1980; PAHO, 1983b) [illegible]
(WHO, 1993) [illegible] 33 [illegible]
[illegible]
[illegible] 100.000 [illegible] :1962 – 1960
[illegible] .1969 [illegible] 1965 [illegible]
[illegible]
2.561 [illegible] 1990 [illegible] (341 [illegible]) 4.248 [illegible] 1989 [illegible] (618 [illegible]) 3.270 [illegible]
.1993 [illegible] (38 [illegible]) 218 [illegible] 1992 [illegible] (21 [illegible]) 176 [illegible] 1991 [illegible] (661 [illegible])
WHO,) [illegible] 1.518 [illegible] 10.207 [illegible]
[illegible] (1 [illegible] .(1995
[illegible]
[illegible] *africanus* [illegible] (2 .*simpsoni*
[illegible]
[illegible]
.(Varma, 1989) [illegible]
[illegible] 15 [illegible]
[illegible]
.(Mutebi and Barrett, 2002) [illegible]

[illegible]
.(*Alouatta* [illegible]) [illegible]
[illegible]
[illegible]

[illegible]
[illegible] %90 [illegible]

[illegible] 6 – 3 [illegible] WHO,) [illegible] .(1985

[illegible]

[illegible] Faget [illegible] prostration [illegible] 4 – 3 [illegible] decompensation [illegible]

[illegible]

[illegible] 10 [illegible] (WHO, 1985) [illegible] %5 [illegible] mottled [illegible] metamorphosis [illegible] – Councilman [illegible] – [illegible]

[illegible] (20% [illegible] 10% [illegible] 30 [illegible] 25 [illegible] (Monath, 1987; PAHO, 1987) [illegible]

[illegible]

[illegible] (*Aotus* [illegible]) [illegible] (*Cebus* [illegible]) [illegible] (*Alouatta* [illegible] (*Callithrix* [illegible]) (marmoset [illegible]) [illegible] (*Ateles* [illegible] (*Saimiri* [illegible]) [illegible] (*Macaca* [illegible]

[illegible] 24 [illegible] 36 – 24 [illegible]

[illegible] (33 [illegible]) [illegible] jungle [illegible] urban [illegible] 12 – 10 [illegible] [6] [illegible]

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[6] [illegible]

[illegible]

[illegible] *H. spegazzini* [illegible] *H. Janthinomys* [illegible] *Haemagogus* [illegible] *spegazzini* [illegible] *Sabethes chloropterus* [illegible] *Aedes leucocelaenus* [illegible] *Sabethes chlor-* [illegible] *opterus* [illegible]

[illegible] contiguous [illegible] (*Cebus* [illegible]) [illegible] *[illegible]* [illegible]

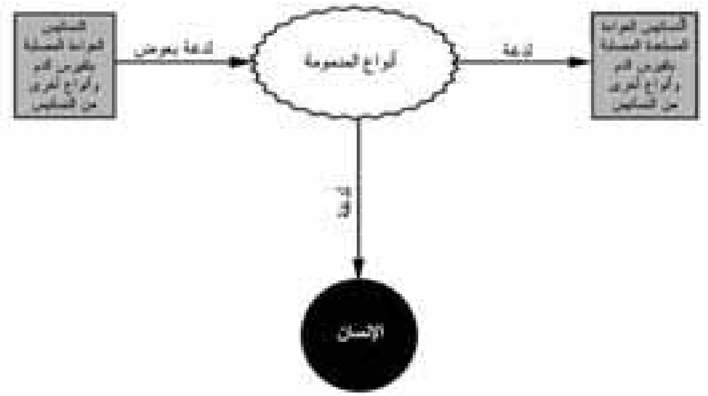
[illegible] (*Bassaricyon gabbii*) olingo [illegible] (*Potos flavus*) ([illegible]) kinkajou [illegible] .(Strano *et al.*, 1975) [illegible] .(Woodall, 1981) [illegible] 100.000 [illegible] 1962 – 1960 [illegible] 30.000 [illegible] (*Papio* [illegible]) [illegible]

[illegible] *furcifer-taylori* [illegible] *opok* [illegible] .*luteocephalus* [illegible] .*Amblyomma variegatum* [illegible]

ḺǺȒǩ ǦĦäàÀöä ǦǀȒǀǤţä ģǿşǼöä Ž ȧǼϘÊʌ ȼϕǖ ˙ϙǼȜ ÀŋǼɅȝş ÛÀǨäǖϘŋ Ќȡ ȒǀǤţä Ǝȝ ȯÀÖϘϕɍä ȒǀǤţä Ǝȝ ɄøǤÀÀѲ ȯÀÖϘϕä ƂǕ ȯǖȍǖä Ź ·ȷÀÊϕqä ş ȄǀϕÀÊÀöä Ōǯŋ ğÀÀøÀÖÀöä Ž âşҚÀöä
Ž ģÀŁÀŢöä ȻǾŁ ǼǱǖǩ Ɓ ȸȮö ÛÀǀÖÀÀǖǕ āǖǀǱ ȯÀȡåǕ Ž ÖęÀÀöä ɄŁş ⁻ *Ǧŋǖŋǽţä* ţǖϕ Ž
ǦǀÌÀǖ ǼĦä ǖȡÀäǖǩş åäǼǀÀÀÀǩ Ž ģäÀÕä ǦĦèǖţä ğÀèäøǼöä ḺȡǾ ÛǦĦǀǤÛöä
.(WHO, 1985) 1979 – 1978

(*Cercopithecus* *ǳşåÀÕǖǖ* ţ äǖϕǕ) õäÀȒ˥ä ȄǀϕÀÊÀöä ɄŁ ɄÊǀəÀöä õäÀÀÔöä ʔȶΣä Ƀǖϙ
Colobus ȄǀϕÀÊÀöäş (*Papia* ţäǖϕǕ) ǳÀǼÀöäş Û(*Erythrocebus patas*) patas ȄǀϕÀÊÀöäş
Seymour and Yuill,) (*Galago* ţäǖϕǕ) bushbabies ǢϕǾţä ŌÀÛöäş (*Colobus* ţäǖϕǕ)
.(1981

·ȯÀÖϘϕɍä ǦÖŸģ ⁻ ƙϘǀȮÀÀŋֈä Ž ǦǀǱǅÀΣä õäÀÀÔöä ʔȶΣä ·33 ŌȮÎöä



ÛǦʌƎöä ğÀϕäǖǀΣä ʔşǼȝ ǦǀǱǅÀΣä õäÀÀÔöä ʔȶΣä ˙ôÀţä ğÀǀəÀǽş Ž ğÀϕäǖǀΣä øşå
ÿǼƸ *Ǧŋǖŋǽţä* ôǖĦä ȷǕ ʔŸȝ ÛȷǾä ʔøϘģ ÛǦǀǼä ǼǱǖǩ ɍ ·ȷÀÊϕqä Ќȡ ğÀŋǼÕţä ǦȍÀǹş
ȷǖȮǩ ÀŋǼɅȝ ÛǦʌƎöä ǦÖŸΣä ǢǤÊǩ ȷǕ ȸȮƺ · ôøÀȝ Ƀǖϙ ȷÀÊϕqä ÛƙϘǀȮÀÀŋֈä Ž ţåǖϘÊȶõ
*ǦÀÔţä ǦǱȝäÀöäş* ÛɄÊǀəÀöä Ƀǖǯöä ǖŁ ȷÀÊϕqä ÀŢǀǖ ȷǖȮʌ ǦÀȒģ ǦÖŸģ ÛǦȶəŸŋ ȣşÀŢöä
Şǖȝ Ƀøöä ţåǖϘÊţä ǖŁ ôǖĦöäş ÛÀǀÖÀÀǖǕ Ž âşҚÀŸö ÀäÀȝ ḺǺȒŋ âÀÀÊÀöä ·ÖęÀÀöä ɄŁ
õäÀÀÔöä ʔȶΣä Ž ·(WHO, 1985) ȒǀǤţä Ǝȝ âşҚÀöä ŌŌÀş ȼǨǀģ ȯäǖǜ ʔşǼĦöä ʔŸȝ
·ǀȒÀǕ ɄÊǀəÀöä ţåǖϘÊţä ɄŁ *ǦÀÔţä ǦǱȝäÀöä* ˙ǦÀȒΣä

[illegible] 4 – 3 [illegible] M [illegible] (Monath and Nystrom,) [illegible] (1984 [illegible] (Deubel *et al.*, 1983) [illegible] 4 – 3 [illegible] 17D [illegible] (Rice *et al.*, 1985) [illegible] (De Brito *et al.*, 1992) [illegible]

[illegible]

[illegible] 17D [illegible] 10 [illegible] lyophilized [illegible]

1989

1993

(WHO, 1993) %11

6

1960 1940 4

17D (WHO, 1986)

(Brés, 1986)

1966 17D 250

39

(P-16065)

P16065

17D-204

epitope

(Jennings *et al.*, 1994) virulent neuroinvasive

quality

reversion

2001 virulent

7 2001 (Chan *et al.*, 2001)

viscerotropic

17D

ǦǱÒÀÀʈɟä ÂõäÀʈä ǨǨĞù ǦÃÊöä ÕŸǩ ÀṅäȘǕ Žș Ǘ(Cetron *et al.*, 2002) ǥǼĤǪʈä ǧÀÀɾɀöä CDC,) ǒäÀÀÔöä ʔƭΣä Ǽȑ ǴǱÕŸǪŸö update ǦǯÀǼǵ ǧÀǼòɀǩ ÀȚÀʈ ǦÀÀȩɀöäș ôäÀʈɟä ǦĤɀÀÒʈ .(2002

## ǕøɰƐþøǅǁƐ


Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 15th ed. Official report of the American Public Health Association. Washington, D.C.: APHA; 1990.

Brès, P.L. A century of progress in combating yellow fever. *Bull World Health Organ* 64:775–786, 1986.

Cetron, M.S., A.A. Marfin, K.G. Julian, D.J. Gubler, D.J. Sharp, *et al.* Yellow fever vaccine. Recommendations of the Advisory Committee on Immunization Practices (ACEP), 2002. *MMWR Morb Mortal Wkly Rep* 51(RR-17):1–11, 2002.

Chan, R.C., D.J. Penney, D. Little, *et al.* Hepatitis and death following vaccination with 17D-204 yellow fever vaccine. *Lancet* 358:121–122, 2001.

Clark, D.H., J. Casals. Arboviruses: Group B. *In:* Horsfall, F.L., I. Tamm, eds. *Viral and Rickettsial Infections of Man*, 4th ed. Philadelphia: Lippincott; 1965.

De Brito, T., S.A. Siqueira, R.T. Santos, E.S. Nassar, T.L. Coimbra, V.A. Alves. Human fatal yellow fever. Immunohistochemical detection of viral antigens in the liver, kidney and heart. *Pathol Res Pract* 188:177–181, 1992.

Deubel, V., V. Mouly, J.J. Salaun, C. Adam, M.M. Diop, J.P. Digoutte. Comparison of the enzyme-linked immunosorbent assay (ELISA) with standard tests used to detect yellow fever virus antibodies. *Am J Trop Med Hyg* 32:565–568, 1983.

Groot, H. The reinvasion of Colombia by *Aedes aegypti*: Aspects to remember. *Am J Trop Med Hyg* 29:330–338, 1980.

Jennings, A.D., C.A. Gibson, B.R. Miller, *et al.* Analysis of a yellow fever virus isolated from a fatal case of vaccine-associated human encephalitis. *J Infect Dis* 169:512–518, 1994.

Johnson, K.M. Yellow fever. *In:* Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

Kerr, J.A. (revised by W.S. Downs). Yellow fever. *In: Practice of Medicine*. Hagerstown, Maryland: Harper and Row; 1975.

Monath, T.P., R.R. Nystrom. Detection of yellow fever virus in serum by enzyme immunoassay. *Am J Trop Med Hyg* 33:151–157, 1984.

Munz, E. Afrikanisch virusbedingte Zoonosen. *Munch Med Wochenschr* 115:1–9, 1973.

Mutebi, J.P., A.D. Barrett. The epidemiology of yellow fever in Africa. *Microbes Infect* 4(14):1459–1468, 2002.

Pan American Health Organization (PAHO). First Meeting of the PAHO Scientific Advisory Committee on Dengue, Yellow Fever, and *Aedes aegypti*. Panama City, March 1976. Document presented at the XXIV Meeting of the Directing Council of PAHO, Mexico City, September-October 1976.

Pan American Health Organization (PAHO). *Quadrennial Report of the Director, 1978–1981*. Washington, D.C.: PAHO; 1982. (Official Document 131.)

Pan American Health Organization (PAHO). Yellow fever in the Americas, 1981–1982. *Epidemiol Bull* 4(1):1–5, 1983a.

Pan American Health Organization (PAHO). Yellow fever vaccination in the Americas. *Epidemiol Bull* 4(6):7–11, 1983b.

Pan American Health Organization (PAHO). Situación actual de la fiebre amarilla. Memorándum de una reunión de la OPS. *Bol Of Sanit Panam* 102:385–411, 1987.

Pinheiro, F.P., A.P. Travassos da Rosa, M.A. Moraes, J.C. Almeida Neto, S. Camargo, J.P. Filgueiras. An epidemic of yellow fever in central Brazil, 1972–1973. I. Epidemiological stud-

ies. *Am J Trop Med Hyg* 27(1 Pt 1):125–132, 1978.

Prías-Landínez, E., C. Bernal-Cúbides, S.V. de Torres, M. Romero-León. Encuesta serológica de virus transmitidos por artrópodos. *Bol Of Sanit Panam* 68:134–141, 1970.

Rice, C.M., E.M. Lenches, S.R. Eddy, S.J. Shin, R.L. Sheets, J.H. Strauss. Nucleotide sequence of yellow fever virus: Implications for flavivirus gene expression and evolution. *Science* 229:726–733, 1985.

Ruch, T.C. *Diseases of Laboratory Primates*. Philadelphia: Saunders; 1959.

Seymur, C., T.M. Yuill. Arboviruses. *In*: Davis, J.W., L.H. Karstad, D.O. Trainer, eds. *Infectious Diseases of Wild Mammals*, 2nd ed. Ames, Iowa: Iowa State University Press; 1981.

Strano, A.J., J.R. Dooley, K.G. Ishak. *Syllabus—Yellow Fever and Its Histopathologic Differential Diagnosis*. Washington, D.C.: American Registry of Pathology, Armed Forces Institute of Pathology; 1974.

Trapido, H., P. Galindo. Parasitological reviews: The epidemiology of yellow fever in Middle America. *Exp Parasitol* 5:285–323, 1956.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep* 22:326, 1973.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Follow-up on yellow fever: Trinidad. *MMWR Morb Mortal Wkly Rep* 29:52, 1980.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Adverse events associated with 17D-derived yellow fever vaccination—United States, 2001–2002. *MMWR Morb Mortal Wkly Rep* 51(44):989–993, 2002.

Varma, M.G. Yellow fever (YF) (Urban yellow fever, sylvatic or jungle yellow fever). *In*: World Health Organization, Vector Biology and Control Division, *Geographical Distribution of Arthropod-Borne Diseases and Their Principal Vectors*. Geneva: WHO; 1989. (WHO/VBC/89.67).

Vasconcelos, P.F., Z.G. Costa, E.S. Travassos da Rosa, E. Luna, S.G. Rodrigues, V.L. Barros, J.P. Dias, *et al*. Epidemic of jungle yellow fever in Brazil, 2000: Implications of climatic alterations in disease spread. *J Med Virol* 65(3):598–604, 2001a.

Vasconcelos, P.F., A.P. Rosa, S.G. Rodrigues, E.S. Rosa, H.A. Monteiro, A.C. Cruz, *et al*. Yellow fever in Pará State, Amazon region of Brazil, 1998–1999: Entomologic and epidemiologic findings. *Emerg Infect Dis* 7(3 Suppl):565–569, 2001b.

Woodall, J.P. Summary of a symposium on yellow fever. *J Infect Dis* 144:87–91, 1981.

World Health Organization (WHO). Yellow fever in Africa. *WHO Chronicle* 21:460–463, 1967.

World Health Organization (WHO). *Expert Committee on Yellow Fever. Third Report of the WHO Expert Committee*. Geneva: WHO; 1971. (Technical Report Series 479.)

World Health Organization (WHO). Jungle yellow fever. *Wkly Epidemiol Rec* 48:367, 1976.

World Health Organization (WHO). *Viral Haemorrhagic Fevers. Report of a WHO Expert Committee*. Geneva: WHO; 1985. (Technical Report Series 721.)

World Health Organization (WHO). *Prevention and Control of Yellow Fever in Africa*. Geneva: WHO; 1986.

World Health Organization (WHO). Yellow fever in 1987. *Wkly Epidemiol Rec* 64:37–43, 1989.

World Health Organization (WHO). Yellow fever in 1991. *Wkly Epidemiol Rec* 68:209–215, 1993.

World Health Organization (WHO). Yellow fever in 1992 and 1993. *Wkly Epidemiol Rec* 70(10):65–70, 1995.

# ZOONOSES
## AND COMMUNICABLE DISEASES COMMON TO MAN AND ANIMALS

Third edition

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منظمة الصحة العالمية
الإقليم الأمريكي
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الإقليم الأمريكي
2003

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2006

# الأمراض الحيوانية المصدر والأمراض السارية المشتركة بين الإنسان والحيوانات – الطبعة الثالثة

Zoonoses and Communicable Diseases Common to Man and Animals – Third Edition

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[illegible]


VII ........ تقديم
IX ........ [illegible]
XIII ........ [illegible]
XVII ........ [illegible]
XXI ........ [illegible]


[illegible]


3 ........ [illegible]
14 ........ [illegible]
22 ........ [illegible]
29 ........ [illegible]
33 ........ [illegible]
51 ........ [illegible]
57 ........ [illegible]
75 ........ [illegible]
79 ........ [illegible]
88 ........ [illegible]
94 ........ [illegible]
104 ........ [illegible]
110 ........ [illegible]
116 ........ [illegible]
131 ........ [illegible]

## (ŀŭĭǳƐɑĭɑǁƐ ƄƐǋɑɑǓƐ) ƖƐɑƐǋǰǁƐ :Ĭ øǳƑƘǁƐ !ƨƪǁƐ

### ƖƑǴǋƪƙǅǁƐ ƄƐǋɑɑƇ .1


147 ........................................................ ǢɸǟşØőÅǣ ǼŸƨǟ ǡÅȚǪőǟ
153 ........................................................ ǦƗÔƪǟ ğÅʒÄÅǪɳ őǟǻ
161 ........................................................ ʔȞţǟ ğÅʒÄÅǪɳ őǟǻ
166 ........................................................ ƫÅőǟ ğÅǭζƗÎɦ őǟǻ
171 ........................................................ ğÅęǿζǪţǟ őǟǻ
185 ........................................................ ğÅęǿǟζǪţǟ őǟǻ
189 ........................................................ ȸÛǴőǟ ğÅȹòÄę őǟǻ
192 ........................................................ ğÅɸÅÅƗƪǟ őǟǻ
199 ........................................................ ğǟşÅǴÖǯőǟ őǟǻ
203 ........................................................ ǦƗÔƪǟ ğǟÄǹüǪɳ őǟǻ
211 ........................................................ ȮèÅÅţǟ ğÅƗǴɸÅǲ őǟǻ
223 ........................................................ ğÅƗèǿÅȚŸǴőǟ őǟǻ


### ƖƑĭƯƐƥƪǁƐ ƄƐǋɑɑƇ .2


245 ........................................................ ğŸƗƗǨÄǴőǟ őǟǻ
247 ........................................................ ğÅèǕÄţǟ őǟǻ
254 ........................................................ ǦǴɸǾţǟ ğÅÊƗȮőǟ őǟǻ
270 ........................................................ ğǟşÅèζȞőǟ őǟǻ
278 ........................................................ ȸÅØÅÅţǟ ğǟşǣ őǟǻ
282 ........................................................ ɃǿǟǼȞőǟ őǟǢőǟ
305 ........................................................ ğÅÅïÄƚǟ őǟǻ
313 ........................................................ őɟÂȞőǟ ǦÔÔÅţǟ őǟǻ
315 ........................................................ ğÅƗęÂţǟ őǟǻ

318 ........................................ ğÅÆĚÅÅÄöä ŏäá
321 ........................................ ğÅÅÅǪţä ŏäá
327 ........................................ ğÅÆÛÅÄ Îöä ŏäá

ǀ ƐƣǋƨǱǄǅǁƐ ƀƐǋƣƈǋ Ƨ ƈþǁƐ ǀ ƑǀǋƮǄ ƀƐǋƣƈ ▪3

339 ........................................ âÜÄöä ğÅõƺÎŋ ŏäá
343 ........................................ ǦÆəÅʒƺöä ğÅÆƣäƺÛèɟä ŏäá
354 ........................................ ğÅÊǹÅÎǪţä ŏäá
362 ........................................ ÄÅÅÔöä ŏäá
370 ........................................ ğäøşÄÅÔöä ŏäá
374 ........................................ ğÅņøÅĦņÎöä ŏäá
381 ........................................ ɃǼŸƨä ğÅęƘöä ğÄǲȽ ŏäá
386 ........................................ ğÅǲǴǪÁţä ŏäá
389 ........................................ ğÅÅÆÑǪöä ŏäá
497 ........................................ ğÅĥêãÄǪöä ŏäáş ğÅȶÖŸǂä ŏäá
402 ........................................ ğÅņĉȶ8Åöä ŏäá
410 ........................................ ğÅÆõƺǲÅ8öä ŏäá
413 ........................................ ğäşÅȶŸĦöä ŏäá
416 ........................................ ğÅëÄĦǪÊţä ŏäá
419 ........................................ ğäşÅÛÆÑƪä ŏäá
422 ........................................ ğÅÆƣäƺÛèɟä ŏäá
433 ........................................ ğäşÅȶÉǪΣä ŏäá
436 ........................................ ğÅÅÅÄĦĿÎöä ŏäá
459 ........................................ ǦÅÄĦÎöä ğÅÆƣƺÛèɟä ŏäá
464 ........................................ ɄøƣäƺƗǵ ŐòǗ ȸŋ ğÅÓŸÊţä ŏäá

469 ........................................ ğÅtŦÊöä öäá̧ Ƀζ ÎΣä ğÅçƘöä gÅDzŁ öäá
479 ............................................... øÆÔţä ĞƗφäζƗΣä ğÅŋζQèζŸÓφɉä öäá
487 ......................................................... øÆÔţä ĞƗφäζƗΣä ğÅÅøŸƗÅöä öäá

(ɭ ƑĭŧƬƻDŽǁƐ) üƜþǓƐ ɭ ƑĭŧƬƻDŽ ׃Ƙǁ ƑƙǁƐ ! ƨƫǁƐ

503 ................................... ɄøφäζƗǵ ÕòÜ ȸŋ âζÊöä ȸʒ ɭDZÅÅöä ÆŸƨä āÅŦQöä
510 ................................................................................ ζ8Åöä öäşáÜ
532 ......................................................................... ğäşÅÊtɭä öäşáÜ
540 ........................................................................ áäÅÕöÅæ ğäøÅÎQǵɍä
551 ................................................................................ ÅŋäζÛöä öäá
556 ......................................................... øÆÔţä ɄøφäζƗΣä āÅƨä

üƑɭ ɭǓƐǋ üǋƐǭƜǁƐ ƀƑDŽƨǯǴ ƕDŽəƑƼ

ɭ ƑĭǁƐǋǓƐ ƀƐǋǭƈ

*óşäÆƨä*

62 ......................................................... ĞƗφÅt ÎƗŸöä ʔşäÆʒ ǴŋŸŋ .1
96 ............................................ ğÅŋÆÕţä ɃÆȞǩ ɄøQöä *ǵøζÔQţä* ţäζφÜ .2

ɭ ƐǭƐǋǭǁƐ

168 ..... ĞƗÊƗəÅöä øÆÔţä ĞƗφäζƗΣä ɭÅöä ğÅõζÎţ ŽäÅ8ƨä ţäζQöäş ĞÛèζQţä öÅÅζǭɉä .3

ɭ ƑĭŧƬƻDŽǁƐ

ʔşÆȞöäş ĞƗΣä ğÅÅəÅÓöäş øÅÎQǵɍÅæ ɟÅÊφqä ÆƗÔǩ ɄøQöä ğäáäÅÕöä .4
541 ........................................................................ ÅŦŸÕÅǩ ɄøQöä

بسم الله الرحمن الرحيم

# تقديم

الدكتور حسين عبد الرزاق الجزائري
المدير الإقليمي لمنظمة الصحة العالمية لشرق المتوسط

شهدت العقود الأخيرة ازدياد أهمية الأمراض الحيوانية المصدر والتي يشترك في المعاناة من ويلاتها الناس والحيوانات معاً، إلى جانب ازدياد وتعقيد وسائل المواصلات، وهو أمر أدّى في مقابل ذلك إلى تسريع وتسهيل نشر العوامل الناقلة للأمراض، وإلى تضاؤل دور التباعُد في المسافات، فلم يَعُدْ بمقدور أي فرد أو مجموعة أن يكون بمأمن عن الإصابة بهذه الأمراض، ورغم قطع خطوات كبيرة على درب التقدُّم العلمي والتكنولوجي في تشخيص وتصنيف هذه الأمراض، ورغم الإنجازات الكبيرة التي تحقّقت في مضمار المعالجة والوقاية منها، فإن هذه الأمراض لاتنزال تشكّل تهديداً خطيراً للصحة في العالم. وقد قام الزملاء في المكتب الإقليمي الأمريكي للصحة العالمية بإعداد هذا السفر حول الأمراض الحيوانية المصدر في ثلاثة أجزاء متكاملة، فلم نتردَّد في نقل فوائد هذا الجهد إلى بلداننا، بترجمته إلى اللغة العربية، وقد ساعدنا المركز العربي للتعريب والترجمة والتأليف والنشر في تحقيق ذلك، وهو أحد المراكز المتخصِّصة لجامعة الدول العربية، ويعمل من مقره في دمشق على توفير المواد التعليمية والتدريبية باللغة العربية للمؤسسات الأكاديمية والمهنية وللجامعات العربية، فجاءت الترجمة مثالاً على الاجتهاد في وضع تسميات جديدة باللغة العربية لكائنات لم تكن قد عرفت لها تسميات من قبل، وفي ذلك من التحدّي ما يدفعنا للإشادة بالعاملين الصامتين الذين ساهموا في إنجاز هذا العمل، ولا يفوتنا أن نؤكّد على أن نجاح هذه الجهود ينبغي أن يترجم في حيِّز التطبيق بالاستفادة من مضمون هذا الكتاب ووضعه موضع التطبيق العملي، وتحديثه ونشر ما حفل به من معلومات على أوسع نطاق، وفي الختام، يرحِّب المكتب الإقليمي بتلقّي أي ملاحظات لاستكمال خصوصية البلدان العربية ولغتها في هذا الصدد.

والله الحق وهو يهدي على السبيل القويم.

الدكتور حسين عبد الرزاق الجزائري
المدير الإقليمي لمنظمة الصحة العالمية
لشرق المتوسط

[illegible]

[illegible]

[illegible] (PAHO) [illegible]

[illegible] safety [illegible]

[illegible] 1951 [illegible] (PANAFTOSA) [illegible] 15 [illegible] (INPPAZ) [illegible] 1991 [illegible] (CEPANZO) [illegible] 1956 [illegible] 1990 [illegible]

[illegible] 1902 [illegible]

[illegible] 1986 [illegible]

[illegible] emerging [illegible] .reemerging [illegible]

[illegible]

**MIRTA ROSES PERIAGO** [illegible]

[illegible]

[illegible] zoonoses [illegible]

[illegible] 150 [illegible]

[illegible] monographs [illegible]

[illegible]

[illegible] exotic [illegible]

[illegible]

[illegible]

[illegible] .metazooses [illegible]

[illegible]

***PEDRO N. ACHA*** [illegible]

***BORIS SZYFRES*** [illegible]

[illegible]

[illegible] models [illegible] Rickettsia prowazekii [illegible] 1922 [illegible] kuru [illegible] scrapie [illegible] pandemics [illegible]

[illegible] Lyme [illegible] 1982 [illegible] 1977 [illegible] Borrelia burgdorferi [illegible]

ȇ ζæşøşɉ ä ɂƥş Rocio ζĚ ì şø Ž ȟÅŋÆöä ā ÅȚǪöä ĞÆÆĶŸöä ÅÒÀÅŋǗ Ž ĞŢǧŸţä ǥÆDZǪȆţä ǒȢÎöä ·ŌÅäǮöä ȧÀì ȯÅȢ Ž ÅÅĤȔȒöä ȣɍǙş ǥÆÆȜ ĞÅæşǗ ƘǹɉäÆĞȅ Æęş ·Oropouche ɂƥ ȃşƘζ øÅÎǪäş ɍζĞÅǗ öäå øζȚş ζŁ ǥÆÆƨä ĞĔȅşƘÅöä ȏ äÅŋɉä ǧŸÒÎŋ Ƙæ àøÅĜöä øÅŋÆöä ÆφÅDZ ƂǗ ÛĞÀÎĞöä ǧɍÅΣä ȸŋ ȣɍɇä ǧäÅÎȜ ÆĞȅ ɃØöäş ÛRift Valley ţåÅÔöä Ƃäşɉä àÅæ ȼæÅÎŋ ŌÒÎæş ·ƁÅĤöä Ž ÀȜØöä øÅǪǗş ÛÀÔŋ Ž ĞĔìÅţä ĞȜÅÅȍ Ž ÆÅÆÎöä ĞĔÖÅȚȅqä ȏ äÅŋǪö ǥƘǯÒöä ŌŋäζȞöä ȸŋ Æǧäζȭ Cryptosporidium ȟäζæɉä ĞĔÅǹ ȢøφäζĔΣä ·ȢţÅȜ øÅÎǪφä ȼö ȷÅȭ ÅŋøşÛǧÅφäζĔΣäş ȷÅȆφqä Ƙæ Ɓ ƘĔφäζĔǧ ƘȓÀŋ ɂŸȜ öäζȓɉä ǙŸȆǨ ¯ ĞÅÆŸÒφqä ĞĤĢÛöä ååÆȜǗ öÅÅǪǗ ¯ ÀÅøÅÕǨ ǨǨǗ ā æÅÒöä ÆŸÒöä öäå ȃşƘÅæ ɁşÆȞöä ȸŋ ǧɍÅǧ ǫŸǫ ÅĔĔǪ Ź ÆŌζ ·ĤÖæÅȅ ȷÅȆφqä Ž ÅǪĞǯÅ ɂŸȜ ĤĤĔƤ äζφÅȭ ȸÅØöäş ÛǥǗÅŋäş ƘŸDZø Ž 1986ş 1983 ȢŋÅȜ Ƙæ ɃÀÎĞöä pseudorabies ĞĔǺĔöÀÅqÅæ ɁşÆȞöä ȢDZζöşƘȅ øÅĞǪǹä ǨĞǪǗ ·ɁÀǹǗ ĞÅDZäå ǧÅφäζĔǧş ǙÛȩ ȝŋ Ȩĕęş ȃÅǪ ȯÅĞƨä ɂƥ ȼÅÆö ȷüæ ȼĞǪìä Û1986 ȳÅȜ ĞÅȅ 51 ȻÀȶȜ ŌDZø Ž Ehrlichia canis ĞĔĞŸÒöä ȝȒƸ ·ȷÅȆφǗ Ž ĞĔĞŸÒöä ĞĔǺĔöÀÅqä ɁşÆȞö ȣşÀĤŋ ǫşÆǧ ȯşǗ äØȽş ÛĞȞÕĞţä ĞÅÀǺÔöä ·øÆÔţä ĞĔφäζĔΣä ȏ äÅŋɉä ȸŋ ƘŸȶǪȚ ȸÅÆDZǪȆŋ ƘȓÀȶȭ ĞĞęäÀȶŸö ȷÅȓÀţä ȷäØȽ ȏ äÅŋɉä ȒĤæ ǨĔÛȜǗ ÛȼǪĔŽǗ øÆę ɂŸȜ øÆÔţä Ȣøφäζĕǧ ȏ Àŋ ŌÒö ȯÅÕä ǴȆζǗ ǧɍşÅȚ Àθ Ɓ ȸÒö ÛĪŸĔÔÀǨ ÀǯȭǗ ĞƨÅĤŋ Åö ĞȍÅǹ monographs ÆÅøÅζǗ ǨÕĤǪȅä Ȣø Ǫöä ·ŌŋÅȭ ŌÒÎæ ţζȓζţä ĞĔÛȣǪö

Ž æÅǪȅɉä ȸÅÆφŸæ ȃ Æφɍşå øζǪȭÆöä ÎÅǹ ÀÅÆŌǪæ Àȭ Øφ ȷǗ ¯ ƘÅöǘţä ȸǗ ¯ åζφ ÆÛöä ĞĔŸÒæ ĞÅÀÛĔĞöä ÅĔDZζöζĔæşÀÒĔţä ĻȆę ȄĔƽøş ÆÛöä ĞĔŸÒæ ĞÅÆĤţä ȏ äÅŋɉäş ÆÛöä ĻȆę Ž ĞŋÅȞöä ĞȞÔöäş ǧÅĔƽÅæζöä æÅǪȅǗ ÀÅøζǨ ȢDZ ŌÅζÅŋ øζǪȭÆŸöş ÛɃøζȆĔŋ ĞĤŋÅƛ ɃÀÛĔĞöä ĞŸŋÅÎöä ÅȶȚǪĤDZäÀŋ ɂŸȜ ɃøζȆĔŋ ĞĤŋÅƛ ɃÀÛĔĞöä ÆÛöä ĞĔŸÒæ ĞÅÀÛĔĞöä ÅĔDZζöζĔæşÀÒĔţä ĻȆę ·ā ÅǪÒöä äØȚ ĞÅÆŸÒφqä ĞƤÀǪöä Ž ĞȶĔÕöä ÅȶőÅȭøÅÎŋş

ƷĔÕǯǪöä ĞȶŢÅŋş ÅÒÀÅŋǗ ȳζȶȞö ĞȔÔöä ĞȶŢÅŋ ȸŋ ȻÅÆÕŸǨ ɃØöä ĻȜÆöä ȸȶǯφ ȷǗ åζφ ÅȶȭȄÀÅǗ ȄĔφζĔæ Ž ÅÒÀÅŋǗ ȳζȶȞö ĞĔφäζĔΣä ȏ äÅŋɉä ÂȭÅŋş (PAHEF) ÅÒÀÅŋǗ ȳζȶȞö ĞȔÔöäş ·ā ÅǪÒöä äØȽ ǬÀÆƠ ȸŋ ÅÅÒŋ ɃØöäş ÛƘǪÅDZøɉä Ž

***PEDRO N. ACHA***

***BORIS SZYFRES***

ƕøəøƯǋøƚ

ɉȦÊφqǟ ƙǣ ǦõȀϘÎţǟ ôǟȀɳɟǟş øǼÔţǟ ǦȄφǟζȄΣǟ ôǟȀɳɟǟ ȸɳ ǥǼȺǼƨǟ ǦȞǦÛǖǟ ȻǾȽ ǨȞǦù ğǟȀϙǼϘţǟ ôǟȀɳȖ (2) ÛğǟøȦÛȀǖǟş Ǧȅɳζϙȁƨǟ ôǟȀɳɟǟ (1) ̇ǒǟȂǅȖ ǦϙƳϙ Ž ğȦφǟζȄΣǟş ȸɳ ȴÊȩ Ȫõ ȨζǟζϘȺ ·ǦȄƳȄȦÛǖǟ ôǟȀɳɟǟ (3) ÛğȦèşƘȦǖǟ ôǟȀɳȖş ğȦȄÊϘȮȺȀǖǟ ôǟȀɳȖş ğǟȀϙǼϘţǟ ǨȞȑş Ǽȩş ǗɄǅζǒζȄǦǖǟ ƵȄȺÔϘǖǟ Ž ǦȄǦǦÊǖǟ Ȫɳǟζ ǶǖǟƷȑζɳ Ʒɳ ǦÊȶȴǟ ɏȦÊȩɟǟ ɄəȦǦȦǒȖ ǼȄǨȀϘǣ ȴÊȩ Ȫõ Ž ôǟȀɳɟǟ ǨǦφ øşǻ ǦȄƳȶƷ ȣǟǼȽɉ ȐȞǣ Ʒɳ ğȦȄÊϘȮȺȀǖǟş ôǟȀɳɟǟ ǒȦƧȖ ğȦζǻǟȀϘɳ ȸȶȒϘȺ ɄəȦǦȦǒȖ ǡȀȾζ ǼǅζȺ Ȧȶõ ǕøȦȪǖǟ ɁƳƷ ǬȞǦǖǟ ȪȄȾÊϘõ ·ǦȄǦǦÊǖǟ ȪɳǟζǶǖǟş

ğƳȮÎţǟş ôǟȀɳȡϙ ɄəȦÔǥqǟ ƃşǼǖǟ ƵȄȺÔϘǖǟ ǼÊǥ ôǟȀɳɟǟ ǒȦƧȖş ɏȦȩøȖ ǨȞȑş ɍȖ ǗǦȞǦÛǖǟ ȻǾȽ Ž ôȀɳ Ȫõ ɉǟζȺȝ ǨƠ ICD-10 ǥȀȉȦȞǖǟ ǦǅǟȀǹqǟ Ž Ȧǒ ǦÛǦǨȀţǟ ǦȄȞÔǖǟ ȔÛǺţǟ ȸȶȑ ȦȾȦȄȦÔǨ ǼȞÔǖǟ ȸɳş ÛƵȄȺÔϘǖǟ ǟǾȽ Ž Ǧǒζȶ Îɳ ƙȡ ôǟȀɳɟǟ ȐȞǣ ɉȖ ·ƃȦΣǟ

ÛğȦȄǦǦÊǖǟ ÛğȦζǻǟȀţǟ ̇ǦȄǒȦϘǖǟ ȸȺşȦȺȞǖǟ ǨƠ ʔşǼȝ şȖ ôȀɳ Ȫõ ǡøǻ Ȭǒǣ ƃȖ ǦζȦȑȖ øǼÔɳ ÛğȦφǟζȄΣǟş ɉȦÊφqǟ Ž ôȀţǟ ÛğȦφǟζȄΣǟş ɉȦÊφqǟ Ž ϙşǼΣǟ ÛŽǟȀȣƨǟ ţȁζϘǖǟ ǦƨȦȞɳ ·ǦȞζȦÒţǟ ÛȌȄȦÎϘǖǟ Ûôȁţǟ ğȦȄəȦǣş Ž ğȦφǟζȄΣǟ øşǻ ÛȯȦȮϘφɟǟ ǟȀüş ʔşǼȞǖǟ ƃȖ ƘȉȖ ̇Ȫõ ɁƳƷş Ûǡ ȦϘȮǖǟ ǟǾȽ ȣǟǼȽȖ ʒøȦǹ (ʔȀǹɟǟ ţǟζϙɟǟş ɉȦÊφqǟ) ȐȺȀţǟ ·ǒȦȮǨƳǖ ǦƳǟȦȩ ɉζȮǨ ȦɳǼȦƷ ǦǒȦǹş ôǟȀɳɟǟ ȸɳ ƘǰȮƳǖ ǦƳȒȀţǟ ğȦƨȦȞţǟ

ȖǼǦȺ ɉȖ ǕøȦȪƳǖ ȸȮϛ ǬǟǾǟş Û(ǦȄȦȄǦǖǟ) ǦȄǅζǒζȮȺqǟş ǦȄəȦζǖǟ ȼǅşȡϙ ΐȦǹ ȻȦǦφǟ ƘƷȖ ǟȀÛǒ ǦȄɄȄȑζǨ Ǽǒζǒ ƷȄȑǟζţǟ ȐȞǣ ǨȦȶȒǨ ·ôȀţǟ şȖ ʔşǼȞƳǒ ǥǟǼǂǟ Ȫɳǟζǖǟ ȴȾȦϘǣ Ȧȶõ ÛǨȞǦǦÛǖǟ Ž ʔşǼȞǖǟ ɁƳƷ ȘζȦƠ ƔǖǟǦ ğȦφǟζȄΣǟ ȀȾȾȨ ǬȄǐ ÛɄøǦǦÊǖǟ ȪɳȦȞǖǟ ȮȦȪϘφǟ øȦÎϘφȓǟ şȖ Žǟȣƨǟ ţǟζϘǖǟ ȸƷ ǦȄζȦȑÛ ğȦɳζȳȞɳ ƙζζϘǖ ğȦÛÛȺţǟş ȮşǟǼƨǟ ȐȞǣ ǨȞȑş ·ǦȄȞɳ øǼÔţǟ ǦȄφǟζȄǥ ôǟȀɳɟ

ȯζǥ ğȦȄÛȞţǟş ÛğȦφǟζȄΣǟş ɉȦÊφqǟ Ž ʔşǼȞǖǟ ϙşǼǥ ȯζǥ ğȦȄÛȞţǟ ǼƷȦÊǨ Ǽȩ

# القسم الأول

# أدواء الأواليات

# AFRICAN TRYPANOSOMIASIS [illegible]

[illegible] B56.1 [illegible] B56.0 [illegible] ICD-10 B56 [illegible] B56.9 [illegible]

**ICD-10 B56 African trypanosomiasis; B56.0 Gambiense trypanosomiasis; B56.1 Rhodesiense trypanosomiasis; B56.9 African trypanosomiasis, unspecified**

[illegible] (trypanosomiasis [illegible]

[illegible] subspecies [illegible] gambiense [illegible] *Trypanosoma* (*Trypanozoon*) *brucei* [illegible]) tsetse [illegible] *rhodesiense* [illegible] Bales 1991; Dumas and Bouteille, 1996, Chimelli and Scaravilli,) (*Glossina* [illegible] salvarian [illegible] (1997 inoculative [illegible] contaminative [illegible]

[illegible] trypomastigote [illegible] 30 [illegible] 1.5 [illegible]

3.5 15

tryparsamide

.(Minter, 1982)

(1993)

zymodemes 23

.(Smith and Bailey, 1997)

Schares and Mehlitz,)

.(1996

[illegible] 10 [illegible] 10 [illegible] proventriculus [illegible] epimastigote [illegible] metacyclic trypomastigotes [illegible] 21 [illegible] 35 – 15 [illegible] %10 [illegible]

[illegible] °15 [illegible] °20 [illegible]

[illegible] 500.000 [illegible] (Goodwin, 1970) [illegible] 200.000 [illegible] 10.000 [illegible] (%2 [illegible] %0.1) [illegible] 4.126 [illegible] 1972 [illegible]

[illegible] .(De Raadt, 1976) [illegible] 3.000 [illegible] Kusoe 1993; Cattand 1994; Jusot *et al.*,) [illegible] .(1995 [illegible] 1982 [illegible] .(Mhlanga, 1996) [illegible] 45 [illegible] 23 [illegible] (*Bull World Heath Organ*, 1982) [illegible] 10.000 [illegible] 36 [illegible] 25 [illegible] 50 [illegible] .(Bales 1991; Kusoe, 1993)

[illegible]

[illegible] 3 – 2 [illegible] (parasitemia [illegible] 3 – 2 [illegible] (chancre [illegible] .(McGovern *et al.*, 1995) [illegible]

[illegible] microglia [illegible] .(Pentreath *et al.*,1994) [illegible] euphoria [illegible] .coma [illegible] somnolence

[illegible] Greenwood and whittle 1980; WHO) [illegible] .(1979

[illegible] .(Vincendeau *et al.*, 1996) [illegible] (VGSA) [illegible]

1.000 … 15 … 7 … (Khonde *et al.*, 1995) … (Hunter *et al.*, 1992) … (Okomo-Assoumou *et al.*, 1995)

… *nagana* … antelopes …

ÀΛàÀΛʅäş carnivores ʅĝäẓŸöä Õöæ Ž Àɳ ğÀφäẓŒΣä ȸɳ ÀĤèäş ÀäÀř ĞŒèşƎöä ĞŒèşƎöä ğÀŒŸŒʅäş ȯÀŧƨä ÆÀʒ ÀŧƮɳ ÀřÀɳ ÆĞÊÀķş ÛƎQÅţä ğÀφäẓŒĝş ğäÀQŎäş equines ğÀŒŸŒʅäş ÀøấÀφ ȻÀÖö ÛĞŒìÀţä Ž ÀŸÀÀę ȷẓȮΛ Ææş ÛȸɳÀɳ ȏÀţä ·ĝK8Ôöä ğäÀQŎäş āŸȮöäş ÙÛÕöäş ĞŒŹÜ ğäæ ʔÀǹÜ ĞŒÖΛÀẓÜ ğÀŒÖʒɳ ȭÀΛŁ ·ʔşÆĤŸö ӯşÀÕɳ ȷÀÊφqä ·ÀΛàÀΛʅä Ž ÀŸÀÀę ȷẓȮΛ Àɳ ÆŒÔķ ·(Levine, 1985) ȷÀÊφqä ÀƮÀɳ ɃÜ ɃÆĤΛ ɍ ȸȮö ĞÀDZäÆöä ğÀφäẓŒΣä ÆÀʒ ĝKĞõ ĞÛŒÎÀöä ĞŒÖʒţä ÀɳÜ ·ğäÀQŎäş ğÀŒŸŒʅäş ÀΛÂøΛʅäş ʅĝäẓŸöä Congolense ĞŒẓ8φẓȮöä ĞŒÖʒţä ·ÀΛàÀΛʅäş ȯÀŧƨä Simiae ĞΛấÀÕöä ĞŒÖʒţä ÆŒÔķ ƙĝ Ž Ûğ äÀQŎäş ğÀŒŸŒʅä ÆŒÔQẓ vivax ӯÆöä ÀÕẓş ĞĤÛÕQţä ʔŧΣäş ĞŒÀŧŸöä ÆÕĤöä ʅÂȒÀ ·ŧŁ ğÀφäẓŒΣä ÆÀʒ ĞŒÊŒəÀöä ȏäÀʒɟä ʔŸʒş ţẓÀöä ʔŸʒ ÀấÀŧQʒä ÀΛɳÀɳ şÜ ÀấÀĝ ȏÀţä ȷẓȮΛ Ææ ·(Urquhart, 1980) ŧęÀQţä ȯäÀTäş ·ŧŸŒÀÛöä ÕŧΣä ʔŸʒş ɃẓʒöäÀŧʒ

ÀQɟä ȸɳ 8ẓʅÀẓ ÛĞŒÖΛÀẓɟä ğÀĤŧQŎä ÕȮÎÀ Ž ÀøşấğÀφäẓŒΣä Ž ğÀŒÖʒţä öäấ ÆĤŸΛ ĈøÀQÜ ĶĤÀɳ ƙĝ Ž ÜŧøĞÀDZɟä şÂ8öä ȸɳ ƙŒŸòɟä ȷÀÔÊöä ʔƥ ÕŒʅä ʔŸʒ ŧŸŒÀÛŸö ÕÀÀÕöä ĞŒæÀQö (ʔʒÀţä) ĞŒĞÎĤöä ȏøɟä ȸɳ [2]ʅõ ƙΛŸɳ [7] ÀΛäÀɳ ȸɳ ĞŒìÀţä ŧøæÀɳ ĞŒìÀţä ʔŸʒ QÆʒ ɃØöäş Ûğ ÀŒÖʒţä öäấ ȸɳ ÀǹÜ ÕȮì ʅDZΛ ·(ĞŒΛÀţä) ʒÀQφqä ĞŒÀĤöä ĞŒæşøşɟä ŧìäẓţä ẓŁş tabanid ĝÀĤÀöä āÀæØöÀæ ÕÕQÀş evansi ĞŒÊφÀΛqä ĞŒÖʒţä ȸʒ ÛÀƮDZøÀǹş ÀŒÕΛÀẓÜ Ž ·ìÀǹ ÕȮÎæ āŸȮöäş ğÀŒŸŒʅäş ȯÀŧDZŸö ȏäÀư

ĞŒɳÀ8öä ĞŒèşƎöä ĞŒÖʒŧŸö ŧÊŒəÀöä ţấẓQÊţä ẓŁ ȷÀÊφqä ·ȯÀÕQφɍä àÀüş ʔşÆĤöä øÆÔɳ ÀĤÎΛ ʔŧΣä āẓφ ƙæ ğäÀQẓ ȸŧȒQÀş ĝÆΛÆɳ ʔşÆĤöä ȷÜ Àɳş ÛÕęÀΛŸö ʔşÆĤöä øÆÔɳş ɃÜ ʔşÆĤöä ȷşÀÎΛş ȷẓŸÕQΛ Ææ ȸΛÆĤÀţä ìÀÅìɟä ȷüẓ ÛÀĞÊφ ʅŒŸè Ȼφüæ ÀTŸǹ ȒΛÀţä Ž ÀøşấÆĤŸÀ ÀŒφÆöä ğÀφäẓŒΣä ȷÜ ʔŸʒ ĞÀŒæ ÆDZẓÀ ɍ ·ÕęÀΛöä ÆDZẓΛ ɍ QŒĝ ĝÆΛÆDZ ĘüÀΛɳ Ž ĶQQφÜ Ææ ȷäẓŒĝ ɃÜ ȷäẓŒĝ ȸɳ ȯÀÕQφɍä ȷÜ ʒɳ ÛĞŒɳÀ8öä ĞŒèşƎöä ĞŒÖʒţÀæ ȷÀÊφqä ʔşÆʒ ĞŸQÀư ĶφÀõ āŸȮöäş ӯÀΛȡɟäş ÀΛàÀΛʅä ȸɳ ğÀŒŸŒÀÛöä ȷÜş Û(Molyneux, 1983) ƎQÅţä Scott *et al.*,) ĞŒẓÂøφqä ÀŁÀəÀŢφ öÀŒŸÒì şÜ ĞΛÀÎĞöä ȯÀÔɳQö ÀƮQŒèÀÊĝ Ž ĞΛÀÎĞöä ğÀŒŸŒÀÛŸö ɃÀÔĝ ÕȮÎæ ĞẓấÀTä ĞĤẓÀÖţä ǰɳäÀæ dzÀʊ ĶÎΛ Ææ ·(1983; Schares *and Mehitz, 1996*

[illegible] tsetse [illegible] tachinoide [illegible] Glossina funcipes [illegible] .Palpalis [illegible]

[illegible]

[illegible] Morsitans [illegible] .swynnertoni [illegible] Pallidipes [illegible] .enzootic [illegible]

(IgM

(Bisser *et al.*, 1997)

(Bailey and Smith 1994) DEAE minifiltration

GLSH

card

[illegible] (catlle [illegible]) [illegible] livestock [illegible]

[illegible]

Langley,) [illegible] (1994 [illegible] *Ochliomyia hominivorax* [illegible]

[illegible] (1991 [illegible]

[illegible] (Gouteux and Artzrouni 1996) [illegible] netting [illegible]

[illegible] (1990) [illegible]

ǦÀŸȮϘöä ǦÔȽǹÀöä ǦöÀȞÀöä ÆəÀÔţä åÀȶϘʒä Žȿ ӯÆöä ȸŸÀÛǨ ğÀǤϘÛȿ ȖǱǮöȿΚÊöä ÒȽÁÎϘöä
·ȖÊǨ ȖÊϘöä āÀæØö

ǦÆæ ōÀÀȽ ȸȮö ÛdzÀŐö ʓÀϘφÛ ǦȽŐÀǮɟä ğÀÆĞŐǮƫŸö ɃÆȒϘÊţä Κ8ϘöäǦŸȮÎɳ ǨȩÀʒÛ ÆŐö
Ž ǦÀÆȞÀţä Κȡ ğÀǮȶƨä ȸɳ %30 ōÀÀȽ ƙǵ ȖÀǮ ÛǦÀÔȚ ǦʒÀÀɳ ÆöǮÀ ôÀţä ɉÛ ɁŸʒ ǦȽəÀæȿ
äȿÆȞφä ȸÀØöä ÕÀöȿÛ ȸɳ %15 ɉǔǮ ÛɁȿÆȞöä ȓÀŐϘöä øÀÛϘǹä ǨƠ ǦȽüäÀŐƩÆöä ǮȣφǮȮöä ǦÀøǮȚƤ
ǴȽŐŸϘöä ɉüæ ȨəÀŐΣä ȻØȽ ȖǵǮǨ ·(Khonde *et al.*, 1995) ȼæÀÎɳ øÀÛϘǹä ȸɳ ɉǮφÀȞÀ ȽŐæÀȅ
·ȸȮư

## ÛøɯɛƥøǅǁƐ


Bailey, J.W., D.H. Smith. The quantitative buffy coat for the diagnosis of trypanosomes. *Trop Doct* 24:54–56, 1994.

Bales, J.D. African trypanosomiasis. *In*: Strickland, G.T., ed. *Hunter's Tropical Medicine*, 7th ed. Philadelphia: Saunders; 1991:617–628.

Bisser, S., B. Bouteille, J. Sarda, *et al.* Apport des examens biochimiques dans le diagnostic de la phase nerveuse de la trypanosomose humaine africaine. *Bull Soc Pathol Exot* 90:321–326, 1997.

Cattand, P.P. Trypanosomiase humaine africaine. Situation epidemiologique actuelle, une recrudescence alarmante de la maladie. *Bull Soc Pathol Exot* 87:307–310, 1994.

Chimelli, L., S. Scaravilli. Trypanosomiasis. *Brain Pathol* 7:599–611, 1997.

Control of sleeping sickness due to *Trypanosoma brucei gambiense*. *Bull World Health Organ* 60:821–825, 1982.

De Raadt, P. African sleeping sickness today. *Trans R Soc Trop Med Hyg* 70:114–116, 1976.

Dumas, M., B. Bouteille. Trypanosomose humaine africaine. *C R Seances Soc Biol Fil* 190:395–408, 1996.

Goodwin, L.G. The pathology of African trypanosomiases. *Trans R Soc Trop Med Hyg* 64:797–817, 1970.

Gouteux, P.J., M. Artzrouni. Aut-il ou non un controle des vecteurs dans la lutte contre la maladie du sommeil? Une approche bio-mathématique du problème. *Bull Soc Pathol Exot* 89:299–305, 1996.

Greenwood, B.M., H.C. Whittle. The pathogenesis of sleeping sickness. *Trans R Soc Trop Med Hyg* 74:716–725, 1980.

Hunter, C.A., F.W. Jennings, J.F. Tierney, M. Murray, P.G. Kennedy. Correlation of autoantibody titres with central nervous system pathology in experimental African trypanosomiasis. *J Neuroimmunol* 41:143–148, 1992.

Jusot, J.F., S.J. de Vlas, G.J. van Oortmarssen, A. De Muynck. Apport d'un modèle mathématique dans le controle d'une parasitose: cas de la trypanosomiase humaine africaine à *Trypanosoma brucei gambiense*. *Ann Soc Belg Med Trop* 75:257–272, 1995.

Khonde, N., J. Pepin, T. Niyonsenga, F. Milord, P. De Wals. Epidemiological evidence for immunity following *Trypanosoma brucei gambiense* sleeping sickness. *Trans R Soc Trop Med*

*Hyg* 89:607–611, 1995.

Kuzoe, F.A. Current situation of African trypanosomiasis. *Acta Trop* 54:153–162, 1993.

Langley, P.A. Understanding tsetse flies. *Onderstepoort J Vet Res* 61:361–367, 1994.

Levine, N.D. *Veterinary Protozoology*. Ames: Iowa State University Press; 1985.

McGovern, T.W., W. Williams, J.E. Fitzpatrick, M.S. Cetron, B.C. Hepburn, R.H. Gentry. Cutaneous manifestations of African trypanosomiasis. *Arch Dermatol* 131:1178–1182, 1995.

Mhlanga, J.D. Sleeping sickness: Perspectives in African trypanosomiasis. *Sci Prog* 79 (Pt 3):183–214, 1996.

Minter, D.M. Trypanosomes. *In*: Manson, P., F.I.C. Apted. *Manson's Tropical Diseases*, 18th ed. London: Ballière Tindall; 1982.

Molyneux, D.M. Selective primary health care: Strategies for control of disease in developing world. VIII African trypanosomiasis. *Rev Infect Dis* 5:945–956, 1983.

Okomo-Assoumou, M.C., S. Daulouede, J.L. Lemesre, A. N'Zila-Mouanda, P. Vincendeau. Correlation of high serum levels of tumor necrosis factor-alpha with disease severity in human African trypanosomiasis. *Am J Trop Med Hyg* 53:539–543, 1995.

Pentreath, V.W., P.J. Baugh, D.R. Lavin. Sleeping sickness and the central nervous system. *Onderstepoort J Vet Res* 61:369–377, 1994.

Schares, G., D. Mehlitz. Sleeping sickness in Zaire: A nested polymerase chain reaction improves the identification of *Trypanosoma (Trypanozoon) brucei gambiense* by specific kinetoplast DNA probes. *Trop Med Int Health* 1:59–70, 1996.

Scott, C.M., J.L. Frezil, A. Toudic, D.G. Godfrey. The sheep as a potential reservoir of human trypanosomiasis in the Republic of the Congo. *Trans R Soc Trop Med Hyg* 77:397–401, 1983.

Smith, D.H., J.W. Bailey. Human African trypanosomiasis in south-eastern Uganda: Clinical diversity and isoenzyme profiles. *Ann Trop Med Parasitol* 91:851–856, 1997.

Truc, P., M. Tibayrenc. Population genetics of *Trypanosoma brucei* in central Africa: Taxonomic and epidemiological significance. *Parasitology* 106(Pt 2):137–149, 1993.

Urquhart, G.M. The pathogenesis and immunology of African trypanosomiasis in domestic animals. *Trans R Soc Trop Med Hyg* 74:726–729, 1980.

Vincendeau, P., M.C. Okomo-Assoumou, S. Semballa, C. Fouquet, S. Daulouede. Immunologie et immunopathologie de la trypanosomose Africaine. *Med Trop* (Mars) 56:73–78, 1996.

Wery, M. Les lents progrès du controle de la maladie du sommeil. *Ann Parasitol Hum Comp* 65(Suppl 1):89–93, 1990.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

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## AMEBIASIS ĺ ƑĜĪĎŽŬɛ bɛq

### ICD-10 A06

.Amebiosis ğ ÌĜŒƞ ĵ ä ÕäŝåÛentamebiasis ğ ɍζĦŲţ ä ÕäŝåÛ ÛƟøŒƞ ĵ ä øÌģÂöä ː ğ ÌζåäÀţä

*Entamoeba* *polecki* *histolytica* *dispar dispar*

(Tsutsumi, 1994)

(Giboda *et al.*,) 1988 1912

(1985)

(Jackson, 1998)

(vegetative) trophic

cystic trophozoite

mitosis

%10 %5 500 – 400 .(García and Bruckner 1997)

%2 1961 %7

1.917 %0.3 1997 – 1996

33.253 %19.4 862 %7.8

980 %29 – %20 11.611 %1.2

%8.7 1.267 %18.6

342

%10 – 5

.(Levine, 1985)

184 %19

1.478 %4.6 (Desowitz and Barnish 1986)

(DeGirolami and Kimber 1983)

.(Chaker *et al.,* 1982) 435 %3.2

Primates

.(Levine, 1985)

.(Tsutsumi, 1994) [illegible]

[illegible] (1994) [illegible]

[illegible] .invasive (WHO, 1981) [illegible] .(Benenson, 1995) [illegible] fasciolіasis [illegible]

[illegible]

[illegible] .(Amyx *et al*., 1978) [illegible]

[illegible] 1992 [illegible]

[illegible] .(Dunlap, 1979) [illegible]

[illegible] Monge) [illegible] (Marshall *et al.*, 1997) [illegible] (and Arias, 1996 [illegible] trophozoite [illegible] desiccation [illegible] 8 [illegible] formed [illegible] °6 - °2 [illegible] 40 [illegible] °34 – °28 [illegible]

[illegible] 29 [illegible] propagate [illegible]

Miller and Bray,) [illegible] 4 [illegible] 29 [illegible] 10 [illegible] .(1966

[illegible] 3 [illegible] .(Chacin-Bonilla, 1983) [illegible]

[illegible] .(García and Bruckner 1997) [illegible]

[illegible] %90 [illegible] Restrepo *et al.*,) [illegible] %10 [illegible] .(1996 [illegible] radioisoptic [illegible]

[illegible]

[illegible] (Jackson, 1998) [illegible] chromatoidal bars [illegible] 30 [illegible] 10 [illegible] 1988 [illegible] (Levin and Arustrony, 1970) [illegible]

[illegible] homosexual [illegible] 30 [illegible] %2 [illegible]

# Uø ƜƐþø ǅƐ


Amyx, H.L., D.M. Asher, T.E. Nash, C.J. Gibbs, Jr., D.C. Gajdusek. Hepatic amebiasis in spider monkeys. *Am J Trop Med Hyg* 27:888–891, 1978.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 16th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1995.

Chaker, E., M. Kremer, T.T. Kien. Quatorze cas d'*Entamoeba* polecki chez des refugies du Sud-Est asiatique: remarques sur l'aspect morphologique du parasite. *Bull Soc Pathol Exot Filiales* 75:484–490, 1982.

Chacin-Bonilla, L. *Entamoeba polecki* infection in Venezuela. Report of a new case. *Trans R Soc Trop Med Hyg* 77:137, 1983.

DeGirolami, P.C., J. Kimber. Intestinal parasites among Southeastern Asian refugees in Massachusetts. *Am J Clin Pathol* 79:502–504, 1983.

Desowitz, R.S., G. Barnish. *Entamoeba polecki* and other intestinal protozoa in Papua New Guinea Highland children. *Ann Trop Med Parasitol* 80:399–402, 1986.

Dunlap, J.S. Protozoa. *In*: Dunne, H.W., A.D. Leman, eds. *Diseases of Swine*, 4th ed. Ames: Iowa State University Press; 1975.

Garcia, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Giboda, M., N. Vokurkova, P. Kopacek, O. Ditrich, J. Gutvirth. *Entamoeba polecki*: Morphology, immunology, antigen study and clinic of the first infections in Czechoslovakia. *Folia Parasitol* (Praha) 35:11–16, 1988.

Jackson, T.P. *Entamoeba histolytica* and *Entamoeba dispar* are distinct species: Clinical, epidemiological and serological evidence. *Int J Parasitol* 28:181–186, 1998.

Levin, R.L., D.E. Armstrong. Human infection with *Entamoeba polecki*. *Am J Clin Pathol* 54:611–614, 1970.

Levine, N.D. *Veterinary Protozoology*. Ames: Iowa State University Press; 1985.

Marshall, M.M., D. Naumowitz, Y. Ortega, C.R. Sterling. Waterborne protozoan pathogens. *Clin Microbiol Rev* 10:67–85, 1997.

Miller, M.J., R.S. Bray. *Entamoeba histolytica* infections in the chimpanzee *(Pan satyrus)*. *J Parasit* 52:386–388, 1966.

Monge, R., M.L. Arias. Presencia de microorganismos patógenos en hortalizas de consumo crudo en Costa Rica. *Arch Latinoam Nutr* 46:292–294, 1996.

Pakandl, M. The prevalence of intestinal protozoa in wild and domestic pigs. *Vet Med* (Praha) 39:377–380, 1994.

Restrepo, M.I., Z. Restrepo, C.L. Elsa Villareal, A. Aguirre, M. Restrepo. Diagnostic tests for amoebic liver abscess: Comparison of enzyme-linked immunosorbent assay (ELISA) and counterimmunoelectrophoresis (CIE). *Rev Soc Bras Med Trop* 29:27–32, 1996.

Shimada, A., Y. Muraki, T. Awakura, *et al*. Necrotic colitis associated with *Entamoeba histolytica* in a cat. *J Comp Pathol* 106:195–199, 1992.

Tsutsumi, V. Los modelos experimentales *in vivo* en la amebiasis. *Gac Med Mex* 130:450–453, 1994.

World Health Organization (WHO). *Intestinal Protozoan and Helminthis Infections. Report of a WHO Scientific Group*. Geneva: WHO; 1981. (Technical Report No. 666).

# BABESIOSIS [illegible]

## ICD-10 B60.0

.Babesiasis [illegible] Piroplasmosis [illegible]

[illegible] 5 [illegible] 12 [illegible] (2 [illegible] Microti [illegible] (1 [illegible] (3 [illegible] Divergens [illegible] gibsoni [illegible] (4 .WAI [illegible] (5 .MO1 [illegible] Barriga) .TWI [illegible] .(1997; Herwalett *et al.*, 1996; Shih *et al.*, 1997 [illegible]

[illegible] .Tick [illegible] 3 – 1.5 [illegible] sporozoite [illegible] pyriform [illegible] merozoites [illegible] .V [illegible] .gametocytes [illegible] Maltese [illegible] 5 [illegible] 1 [illegible] gametocytes [illegible]

Ixodes capulavis

ricinus

dammini

gamete

kinetes

zygote

.(Mehlohorn and Schein 1985)

WA1

MO1

TW1

38

(1976)

[illegible] 101 [illegible] 3 [illegible]

[illegible] 1900 [illegible] 1957 [illegible] 100 [illegible] 10 [illegible] 22 [illegible] 200 [illegible] 1.285 [illegible] %6.3 [illegible] 574 [illegible] %9 (Krause *et al.*, 1991) [illegible] seropositive [illegible] %17.8 (Krause *et al.*, 1992) [illegible] Fritz *et*) WAI [illegible] 230 [illegible] .(*al.*, 1997

[illegible] %70 [illegible] %50 [illegible] (*major* [illegible] *bovine* [illegible] *bigemina* [illegible] 2 [illegible] 1.0 × 1.5 [illegible]

[illegible] .(Barriga, 1997) [illegible] (*Permysus Leucopus* [illegible]) [illegible] %67 [illegible] %35.4 [illegible] %38 [illegible] .(Spielman *et al.*, 1981) [illegible] .(Krampitz, 1979) (*Microtus agrestis* [illegible]) Voles [illegible] 255 [illegible]

[illegible] (%80) [illegible] %50 [illegible] %1 [illegible] %10 [illegible] .(Ruebush, 1984) [illegible] 28 – 7 [illegible] .(Mitchell *et al.*, 1996) [illegible]

9 – 6

transsstadial

%5

·ŋöÅGöä ååÀÕöä БÜ ĞÅøźΣä ʤŋ ʉøφäźĒΣä Ƃäşɟä Àƺ ɍ ·Õõ ʔŸɜş ·ʔşÆĤöÅæ ĞæÅÔŋ ÅƮĤƤ Ź Ƴź ÛĞÅƎÔĤöä ĞÆÊæÅGŸö ÆĤǪÊŋ Ƙȡ źŁ ɃØöäş Ûdeer ÕÅɟä ʔŸɜ ʔØ8ǪÅ ŋöÅGöä ååÀÕöä ȷÜ Åŋş .(Lane and Crosskey, 1993) ʔşÆĤöä ÕÖÅÅ ɍ ÕöØöş Ûʔ şÆĤöÅæ āÅÔÅ ȷɟ ĞòÀź ÆDZźǩ ğÅęƘŸö öÅÅźǭüõ ȳÆơ ʉøǪöä ôøäźÕöä ʤŋ Àźäş åÆĤæ ĞÅƎÔĤöä ĞÆÊæÅGöÅæ ĞφźüźţäĘüÅÅţä ÅĒŧǪǩ Ž ĞÅÀÎGöä ʔşäÆĤöä ĻȚĤŋ ϙÆƠ ·ŋöÅGöä ååÀÕŸö Ƀźǯõ ÕÅqä ȳÆơ ÅŧÅÆæ ÛÕęÅÅöä ğäşäøźǵş Ruebush *et al.,*) ĒƘGõ ğäşäøźΣä åÆɜ ȷźÒÅ Åŋ Æ Åɜ 8ş 7 ɃÀƮì Ž ğÆĤʊǪţä ğÅÅɍźöä .(1981

øåÅę źŁş ÛĞĒìÅţä ʔŸɜ ÙÖź ŋöÅGöä ʉɜşÀʅä åźGŸöä ååÀÕöä ʔØ8ǪÅ ·ğÆɜÅGţä ĞÆÊæÅGöä ĞöÅǵ Ž ʤŋ ğäååÀÕöä ʤŋ ʉøφÅǯöä ÕĒƨä БÜ ğÆɜÅGţä ĞÆÊæÅGöä ÕÖǪÅǩ ·Õõ ʔŸɜ ·ʔşÆĤöä āÅÊǪõä ʔŸɜ БÜ øźÛǪöä ʤŋ ĞÅŸǪÅţä øäźüɟä òŸǹ ÅŁÆĤæş (ȒĒGţä Ǝɜ òÅÖǪφä) ô źĒGöä ʤŋ Õõ òŸǹ ɃÜ Ž ğÆɜÅGţä ĞÆÊæÅGöä ÕÖÅÅ ȷÜ ʉɜşÀʅä åźGŸö ʤÒƺ ·äØÒŁş (ÕğäÅţä Ǝɜ òÅÖǪφä) ååÀÕöä ·ȼÅĒǵ ğøşå Ž øźü

Mintz *et al.,*) ȳÆöä ÕÖφ ʤɜ ĞƤÅÅöä ĞÅÀÎGöä ĞÆÊæÅGöä ʔşÆɜ ʤɜ ĒGÅÀÕǩ ÀÅøÅÕǩ 8 õÅÅŁ ·ĻƮÊÅφÜ ĻŁ ÅŁźGÊǪÒÅ ȷÜ ÆĤæ ĒÀƮì 12 ğÆţ ʔşÆĤöä ȷźĒȑäÅɜÜŸö ȷźɜƎǪţä Õŧɜ .(1991

şÜ ɜŋ ĞÅÀÅÊöä ô äÀɜɟä Ęźäźǩ Åŋ Æ Åɜ ğÅÆÊæÅGöä ŏäá ÒĒÁÎǪæ ÕÎöä Ƶź ·ÒĒÁÎǪöä Ž ÒĒÁÎǪöä ǨĞǯÅş ÜğÅφäźĒΣÅæ ĞÅüźǪŋ ĘüÅÅţ ğäøÅÅä ɜŋ şÜ ååÀÕöä ȟÆŸö ĞĒəÅæş ĞÔę ĞÅźŋÆöä ğÅǹÅÛŸö Ž ÅŧΣä ğÅÅÀÒöä Õǹää ğÅÆŸÆÅÛŸö ʔÀǩ Åŋ Æ Åɜ ĞĒŧΣä şÜ ğåÅΣä ğɍÅΣä ÛĞŸDzÅţä ğøźÔǪţä ĞöÅǹş Ûğøź ÔǪţä ʤɜ ĘÅÅÅǪöä ÆŸÛǪÅ Æę ·äÅŧĒ8æ ĞφźŸţä ĞÆĒÅǯöä şÜ ĞÕĒęÅÖöä ğÅÀÒöä Ž ğøźÔǪţä Èɜ ʔŸɜ (ʤÅäźŧĒƮä) ĒȡÅGò ĞÆÊæÅGŸö ȷǪÅǩ ɍ ·öäƎʅä ğÆɜÅÊŋ ȳÆöä ʤŸÅÛǩ ɜŋ ĒφÅŋäÜ Àǯõɟä ğɍÅΣä Ž ÒĒÁÎǪöä ɜȑş ʤÒƺ ·ʉŸĒÅÛöÅæ ĞæÅÔţä öäÀŧΣä ȳÆöä ĞƔöŸǩ şÜ ÀìÅGŋƳöä ʉɜÅÅţä ĘöüǪöä øÅGǪņä Ô ǯŋ ĞĒDZźǪşƘÊöä î źʊÅöä ȳåÆÅǪèÅæ ƵĒÅʅä ĞŸæÅę ååÆɜüæ ȳÆöä Ž ğÅÆÊæÅGöä øźƮş Õęş şÜ ĞÅŋÅţä ğɍÅΣä Ž Åŋ Ü ·ğÆĤǪÊŋ ğÅφäźĒğ Ž ĞĒɜźÅöä ĞÅşźÅöä ô źŧΣä Ƶ ÎÒö äÀÅŧĒöźGöä ĞŸÊŸè ÕɜÅÅǩ ȳäÆÅǪèä ʤÒƺ ¢φüź Ƶ ÎÒŸö

.(Krause *et al.,* 1996) [illegible]

[illegible] *Boophilus microplus* [illegible] .(de la fuente *et al.,* 1998) [illegible]

## [illegible]


Barriga, O.O. *Veterinary Parasitology for Practitioners*. 2nd ed. Edina: Burgess International Group; 1997.

De la Fuente, J., M. Rodriguez, M. Redondo, C. Montero, J.C. García-García, L. Méndez, *et al.* Field studies and cost-effectiveness analysis of vaccination with Gavac™ against the cattle tick, *Boophilus microplus*. *Vaccine* 16(4):366–373, 1998.

Fritz, C.L., A.M. Kjemtrup, P.A. Conrad, *et al.* Seroepidemiology of emerging tickborne infectious diseases in a Northern California community. *J Infect Dis* 175:1432–1439, 1997.

Herwaldt, B., D.H. Persing, E.A. Precigout, *et al.* A fatal case of babesiosis in Missouri: Identification of another piroplasm that infects humans. *Ann Intern Med* 124:643–650, 1996.

Krampitz, H.E. *Babesia microti*: Morphology, distribution and host relationship in Germany. *Zentralbl Bakteriol* [Orig A] 244:411–415, 1979.

Krause, P.J., S.R. Telford, R. Ryan, *et al.* Geographic and temporal distribution of babesial infection in Connecticut. *J Clin Microbiol* 29:1–4, 1991.

Krause, P.J., S.R. Telford, R.J. Pollack, *et al.* Babesiosis: An underdiagnosed disease of children. *Pediatrics* 89 (6 Pt 1):1045–1048, 1992.

Krause, P.J., S.R. Telford, A. Spielman, *et al.* Comparison of PCR with blood smear and inoculation of small animals for diagnosis of *Babesia microti* parasitemia. *J Clin Microbiol* 34:2791–2794, 1996.

Lane, R.P., R.W. Crosskey, eds. *Medical Insects and Arachnids*. London: Chapman & Hall; 1993.

Mehlhorn, H., E. Schein. The piroplasms: Life cycle and sexual stages. *Adv Parasitol* 23:37–103, 1984.

Mintz, E.D., J.F. Anderson, R.G. Cable, J.L. Hadler. Transfusion-transmitted babesiosis: A case report from a new endemic area. *Transfusion* 31:365–368, 1991.

Mitchell, P.D., K.D. Reed, J.M. Hofkes. Immunoserologic evidence of coinfection with *Borrelia burgdorferi*, *Babesia microti*, and human granulocytic *Ehrlichia* species in residents of Wisconsin and Minnesota. *J Clin Microbiol* 34:724–727, 1996.

Osorno, M., C. Vega, M. Ristic, C. Robles, S. Ibarra. Isolation of *Babesia* spp. from asymptomatic human beings. *Vet Parasitol* 2:111–120, 1976.

Ruebush, T.K. Babesiosis. *In*: Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Ruebush, T.K., D.D. Juranek, A. Spielman, J. Piesman, G.R. Healy. Epidemiology of human babesiosis on Nantucket Island. *Am J Trop Med Hyg* 30:937–941, 1981.

Shih, C.M., L.P. Liu, W.C. Chung, S.J. Ong, C.C. Wang. Human babesiosis in Taiwan: Asymptomatic infection with a *Babesia microti*-like organism in a Taiwanese woman. *J Clin Microbiol* 35:450–454, 1997.

Spielman, A., P. Etkind, J. Piesman, T.K. Ruebush, D.D. Juranek, M.S. Jacobs. Reservoir hosts of human babesiosis on Nantucket Island. *Am J Trop Med Hyg* 30:560–565, 1981.

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## BALANTIDIASIS [illegible]

**ICD-10 A07.0**

[illegible] (Balantidiosis [illegible]) [illegible] *Balantidium coli* [illegible] 27 [illegible] (Wenyon, 1926) [illegible] 120 – 25 [illegible] 150 – 30 [illegible] (cytostome [illegible]) [illegible] 65 – 45 [illegible] (Neva and Brown, 1994) [illegible]

[illegible] .(Gracía and Bruckner, 1997) [illegible]

[illegible]

[illegible]

[illegible] 772 [illegible] 1960 [illegible] 1996 [illegible] 1988 [illegible] %0.5 [illegible] %0.3 [illegible] %0.05 [illegible] 18.512 [illegible] 1.8 [illegible] (1992) [illegible] %0.26 [illegible] %19.3 [illegible] %4.5 [illegible] %6 [illegible] %8 [illegible]

[illegible]

[illegible] %60 [illegible] %90 [illegible] %60 [illegible] Suis [illegible]

[illegible] (Vidan *et al.*, 1985; Ladas *et al.*, 1989) [illegible]

[illegible] (1995) [illegible]

[illegible] (Geddes, 1952) [illegible]

[illegible] (Faust *et al.*, 1970) [illegible]

[illegible] (excyst [illegible]) [illegible]

[illegible] .Formed [illegible] .(100X) [illegible]

[illegible]

## [illegible]

Faust, E.C., P.F. Russell, C.R. Jung. *Craig and Faust's Clinical Parasitology*. Philadelphia: Lea & Febiger; 1970.

García, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Geddes, McC.A. Balantidiasis in South Persia. *Br Med J* 1:629–631, 1952.

Ladas, S.D., S. Savva, A. Frydas, A. Kaloviduris, J. Hatzioannou, S. Raptis. Invasive balantidiasis presented as chronic colitis and lung involvement. *Dig Dis Sci* 34:1621–1623, 1989.

Neva, F.A., H.W. Brown. *Basic Clinical Parasitology*, 6th ed. Norwalk, Connecticut: Appleton & Lange; 1994.

Vidan, J.R., A. Frauca, B. Martínez, F. Borda. Parasitosis hepática por *Balantidium coli*. *Med Clin* (Barc) 85:299–300, 1985.

Wenyon, C.M. *Protozoology: A Manual for Medical Men, Veterinarians and Zoologists*. London: Baillière, Tindall and Cox; 1926.

Wittner, M., H.B. Tanowitz. Intestinal parasites in returned travelers. *Med Clin North Am* 76:6, 1433–1448, 1992.

Yang Y., L. Zeng, M. Li, J. Zhou. Diarrhoea in piglets and monkeys experimentally infected with *Balantidium coli* isolated from human faeces. *J Trop Med Hyg* 98(1):69–72, 1995.

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# CHAGAS' DISEASE [illegible]

**ICD-10 B57**

[illegible]

*Trypanosoma* [illegible] *cruzi* [illegible] (*Shizotrypanum* [illegible]) [illegible] (trypanosomal [illegible]) [illegible] trypomastigote [illegible] (leishmanial [illegible]) [illegible] amastigote [illegible] epimastigote [illegible] (crithidial [illegible]) [illegible]

[illegible] 15 [illegible] 20 [illegible] kinetoplast [illegible] 3 × 2 [illegible] 20 [illegible]

[illegible] (1983) [illegible] zymodemes [illegible] 3 [illegible] 11 [illegible] 7 [illegible] (Blanco and Montamat, 1998) [illegible] 12 (Bogliolo *et al.*, 1986) [illegible] (Lauria-Pires and Teixeirn, 1996) [illegible] (*Herpetosoma* [illegible]) ranglei [illegible] reduviid [illegible] 30 [illegible]

[illegible] 150 [illegible]

[illegible] Triatomidae [illegible] reduviid [illegible] *Triatoma* [illegible] 100 [illegible] *Panstrongylus megistus* [illegible] *infestans* [illegible] *Rhodnnius prolixus* [illegible] 30 – 15 [illegible] bug [illegible]

[illegible] contaminative [illegible] modality [illegible] inoculative [illegible] 5 – 4 [illegible] neuroglia [illegible] (epimastigote [illegible] promastigote [illegible]) [illegible]

[illegible]

[illegible] °42 [illegible] °42 [illegible] °40 (PAHO, 1984) [illegible] .(Marsden, 1997) [illegible] autochthonous [illegible]

[illegible] 65 [illegible] 20 – 10 [illegible] %10 [illegible] .(PAHO, 1984) [illegible] 18 [illegible] 16 [illegible] %30 [illegible] 50 .(Moncayo 1992; Wanderley and Correa, 1995) [illegible]

[illegible] (Gurtler *et al.*, 1998) [illegible] %34 [illegible] 1972 – 1971 [illegible] (%61.9 [illegible] %2.9 [illegible]) %16.6 [illegible] 0.4 [illegible]) %1.1 [illegible] 1991 – 1989 [illegible] .(%44.8

%7.1 1997 .(Possos *et al.*, 1997)
6.25 %5.1 %8.25
.(Benensom, 1995)

(Rangel *et al.*, 1998) %17
3
Leiby) 49.565 34
.(*et al.*, 1997

172 %3
(Russomando *et al.*,1998)
149 %4 (Arcavi *et al.*, 1993) 62 %5.3
.(Streiger *et al.*, 1995) 341 %2.6 (Zaidenberg and Segovia, 1993)
.(Azoge, 1995) 910 %9.5
3.765 %0.3 (1999)
(1999)

cardiopathy

[illegible] 10 [illegible] 7 [illegible] (Puffer and Griffith, 1967) [illegible] %13 [illegible] %22 [illegible] 44 [illegible] 25 [illegible] %29) [illegible] 74 – 15 [illegible]

[illegible] 150 [illegible] 16 (%10) [illegible] 20 [illegible] 2 (%8.10) [illegible] 37 [illegible] 3 [illegible] 3 [illegible] (%37.5) [illegible] 8 [illegible] 3 (%34.6) [illegible] 44 [illegible] (Fujita *et al.*, 1994) [illegible] 3 [illegible] 28 [illegible] %39.3 [illegible] 68 [illegible] %41.2 [illegible] (Gurtler *et al.*, 1993) [illegible] xenodiagnosis [illegible] Meurs *et*) 1996 – 1987 [illegible] 11 [illegible] (*al.*, 1998 [illegible] (%50) [illegible] 140 [illegible] 70 [illegible] %11.9 [illegible] 3321 [illegible] %9.1 [illegible] %8.4 [illegible] 1805 [illegible] (Miles, 1993) [illegible]

[illegible] 24 [illegible] %4.8 [illegible] 145 [illegible] %1.7 [illegible] 232 [illegible] %7.8 [illegible] (Correa *et al.*, 1982) [illegible] 42 [illegible] %61 [illegible] %10.5 [illegible]

[illegible] Didelphis [illegible] (*albiventris* [illegible] 31 [illegible] 750 [illegible] %83 [illegible] 143 [illegible] 10 [illegible] %30 [illegible] %80 [illegible] marsupials [illegible] .(Telford *et al.*, 1981) [illegible] .(Mello, 1982) [illegible] 12 [illegible] (%43) 30 [illegible] 13 [illegible] 10 [illegible] .(Pietrzak and Pung, 1998) [illegible]

14 … 7 … 40 – 30 … 19 … 1996 … 1988 … 59 … Romaña … %15 … %20 … %50 … %11.9 … %25 … %8 … .(Anez *et al.*, 1999)

.(Dored, 1981) … %30 … %10 … 15 … 10 …

microfocal

%20 (Gonazález Cappa and Segura, 1982)

(%44) (%75)

.(Ferreira *et al.*, 1997)

(1 (2 (3

in common

(Kierszembaum, 1999)

.(Brener and Gazzinelli, 1997)

[illegible] 2.5 [illegible]

[illegible] (Blandon *et al.*, 1995) [illegible] 42 – 5 [illegible] 30 [illegible] 10 [illegible] (Caliari *et al.*, 1996) [illegible] 26 [illegible] 13 [illegible] 38 [illegible] 12 [illegible] (Lana *et al.*, 1992) [illegible] 6 [illegible]

[illegible] 30 [illegible] 5 [illegible] 6 [illegible] .(Meurs *et al.*, 1998) [illegible] 7 [illegible]

[illegible] .(Curtler *et al.*, 1998) [illegible]

[illegible] .(Blandon *et al.,* 1995) [illegible] 13 [illegible] 202 [illegible] 14 [illegible] 146 [illegible] (Castro *et al.,* 1999) [illegible] 42 [illegible] .(Gurtler *et al.,* 1991) [illegible]

[illegible] *Rhadnius* [illegible] *T. sordida* [illegible] *Panstrongylus megistus* [illegible] *T. maculate* [illegible] *T. protacta* [illegible] *T. sanguisuga* [illegible]

[illegible] triatomine [illegible]

[illegible]

[illegible] 6 [illegible] Flores) [illegible] (200) [illegible] (et al., 1966 [illegible] (600) [illegible]

[illegible] Anez) [illegible] (et al., 1999 [illegible] %100 [illegible] 60 – 30 [illegible] %50 [illegible] 30 [illegible]

[illegible] .(Anez et al., 1999) [illegible] Umezawa et al.,) [illegible] .(1999 .(Gomes et al., 1999) [illegible] 6 [illegible] M [illegible] A [illegible] M [illegible] (Acosto et al., 1991) [illegible]

[illegible] (Levi *et al.*, 1996) [illegible] (da Rochae e Silva *et al.*, 1998) [illegible] 1991 [illegible] (Schofield and Dias, 1999) [illegible] 1999 [illegible]

[illegible] pyrethroids [illegible] (Gurtler *et al.*, 1998) [illegible] (Gastanera *et al.*, 1998) [illegible] (Barriga, 2000) [illegible] 6 – 1 [illegible]

24 250

(Morães-Souza and Bordin, 1996)


Acosta, L., A.J. Romanha, H. Cosenza, A. Krettli. Trypanosomatid isolates from Honduras: Differentiation between *Trypanosoma cruzi* and *Trypanosoma rangeli*. *Am J Trop Med Hyg* 44:676–683, 1991.

Anez, N., H. Carrasco, H. Parada, *et al.* Acute Chagas' disease in western Venezuela: A clinical, seroparasitologic, and epidemiologic study. *Am J Trop Med Hyg* 60:215–222, 1999.

Arcavi, M., G. Orfus, G. Griemberg. Incidencia de la infección chagásica en embarazadas y en recién nacidos en área no endémica. *Medicina (B Aires)* 53:217–222, 1993.

Azogue, E. Women and congenital Chagas' disease in Santa Cruz, Bolivia: Epidemiological and sociocultural aspects. *Soc Sci Med* 37:503–511, 1993.

Barriga, O.O. Los hospederos generan anticuerpos circulantes y cutáneos contra las picadas de *Triatoma infestans* e inhiben su alimentación. *In*: VII Jornada Anual SOCHIPA, Libro de resúmenes, p. 22. Temuco: Sociedad Chilena de Producción Animal; 2000.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 16th ed. An Official Report of the American Public Health Association. Washington, D.C.: APHA; 1995.

Blanco, A., E.E. Montamat. Genetic variation among *Trypanosoma cruzi* populations. *J Exp Zool* 282:62–70, 1998.

Blandon, R., I.M. Leandro, C.M. Johnson. Evaluación clínica, electrocardiográfica y angiográfica de los reservorios naturales de la enfermedad de Chagas en la República de Panama. *Rev Med Panama* 20:108–115, 1995.

Bogliolo, A.R., E. Chiari, R.O. Silva-Pereira, A.A. Silva-Pereira. A comparative study of *Trypanosoma cruzi* enzyme polymorphism in South America. *Braz J Med Biol Res* 19:673–683, 1986.

Brener, Z., R.T. Gazzinelli. Immunological control of *Trypanosoma cruzi* infection and pathogenesis of Chagas' disease. *Int Arch Allergy Immunol* 114:103–110, 1997.

Caliari, E.R., M.V. Caliari, M. de Lana, W.L. Tafuri. Estudo quantitativo e qualitativo dos

plexos de Auerbach e Meissner do esôfago de cãos inoculados com o *Trypanosoma cruzi*. *Rev Soc Bras Med Trop* 29:17–20, 1996.

Castanera, M.B., M.A. Lauricella, R. Chuit, R.E. Gurtler. Evaluation of dogs as sentinels of the transmission of *Trypanosoma cruzi* in a rural area of north-western Argentina. *Ann Trop Med Parasitol* 92(6):671–683, 1998.

Castro, C., V. Macêddo, A. Prata. Comportamento da parasitemia pelo *Trypanosoma cruzi* em chagásicos crônicos durante 13 anos. *Rev Soc Bras Med Trop* 32:157–165, 1999.

Correa, V., J. Briceño, J. Zuñiga, *et al.* Infección por *Trypanosoma cruzi* en animales domésticos de sectores rurales de la IV Región, Chile. *Bol Chil Parasitol* 37:27–78, 1982.

da Rocha e Silva, E.O., D.M. Wanderley, V.L. Rodrigues. *Triatoma infestans*: importancia, controle e eliminação da espécie no Estado de São Paulo, Brasil. *Rev Soc Bras Med Trop* 31:73–88, 1998.

Di Pentima, M.C., L.Y. Hwang, C.M. Skeeter, M.S. Edwards. Prevalence of antibody to *Trypanosoma cruzi* in pregnant Hispanic women in Houston. *Clin Infect Dis* 28:1281–1285, 1999.

Dorea, R.C.C. Doença de Chagas na Amazônia: aspectos epidemiológicos regionais e considerações a propósito de um caso pediátrico. *Hileia Méd* 3:81–109, 1981.

Ferreira, M.S., S. de Nishioka, M.T. Silvestre, A.S. Borges, F.R. Nunes-Araujo, A. Rocha. Reactivation of Chagas' disease in patients with AIDS: Report of three new cases and review of the literature. *Clin Infect Dis* 25:1397–1400, 1997.

Flores, M.A., A. Trejos, A. R. Paredes, A.Y. Ramos. El método de concentración de Strout en el diagnóstico de la fase aguda de la enfermedad de Chagas. *Bol Chil Parasitol* 21:38–39, 1966.

Fujita, O., L. Sanabria, A. Inchaustti, A.R. De Arias, Y. Tomizawa, Y. Oku. Animal reservoirs for *Trypanosoma cruzi* infection in an endemic area in Paraguay. *J Vet Med Sci* 56:305–308, 1994.

Gomes, M.L., L.M. Galvão, A.M. Macedo, S.D. Pena, E. Chiari. Chagas' disease diagnosis: Comparative analysis of parasitologic, molecular, and serologic methods. *Am J Trop Med Hyg* 60:205–210, 1999.

González Cappa, S.M., E.L. Segura. Enfermedad de Chagas. *Adel Microbiol Enf Infec* (B Aires) 1:51–102, 1982.

Gurtler, R.E., M.C. Cecere, D.N. Rubel, *et al.* Chagas disease in north-west Argentina: Infected dogs as a risk factor for the domestic transmission of *Trypanosoma cruzi*. *Trans R Soc Trop Med Hyg* 85:741–745, 1991.

Gurtler, R.E., M.C. Cecere, R.M. Petersen, D.N. Rubel, N.J. Schweigmann. Chagas disease in north-west Argentina: Association between *Trypanosoma cruzi* parasitaemia in dogs and cats and infection rates in domestic *Triatoma infestans*. *Trans R Soc Trop Med Hyg* 87:12–15, 1993.

Gurtler, R.E., R. Chuit, M.C. Cecere, M.B. Castanera, J.E. Cohen, E.L. Segura. Household prevalence of seropositivity for *Trypanosoma cruzi* in three rural villages in northwest Argentina: Environmental, demographic, and entomologic associations. *Am J Trop Med Hyg* 59:741–749, 1998.

Jaramillo, R., J.P. Bryan, J. Schur, A.A. Pan. Prevalence of antibody to *Trypanosoma cruzi* in three populations in Belize. *Am J Trop Med Hyg* 57:298–301, 1997.

Kierszenbaum, F. Chagas' disease and the autoimmunity hypothesis. *Clin Microbiol Rev* 12:210–223, 1999.

Lana, M. de, E. Chiari, W.L. Tafuri. Experimental Chagas' disease in dogs. *Mem Inst Oswaldo Cruz* 87:59–71, 1992.

Lauria-Pires, L., A.R. Teixeira. Virulence and pathogenicity associated with diversity of *Trypanosoma cruzi* stocks and clones derived from Chagas' disease patients. *Am J Trop Med Hyg* 55:304–310, 1996.

Leiby, D.A., E.J. Read, B.A. Lenes, *et al.* Seroepidemiology of *Trypanosoma cruzi*, etiologic agent of Chagas' disease, in US blood donors. *J Infect Dis* 176:1047–1052, 1997.

Leiby, D.A., M.H. Fucci, R.J. Stumpf. *Trypanosoma cruzi* in a low- to moderate-risk blood donor population: Seroprevalence and possible congenital transmission. *Transfusion* 39:310–315, 1999.

Levi, G.C., I.M. Lobo, E.G. Kallas, V. Amato Neto. Etiological drug treatment of human infection by *Trypanosoma cruzi*. *Rev Inst Med Trop Sao Paulo* 38:35–38, 1996.

Marsden, P.D. The control of Latin American Chagas' disease. *Rev Soc Bras Med Trop* 30:521–527, 1997.

Mello, D.A. Aspectos do ciclo silvestre do *Trypanosoma cruzi* em regiões de cerrado (Municipio de Formosa, Estado de Goias). *Mem Inst Oswaldo Cruz* 76:227–246, 1981.

Meurs, K.M., M.A. Anthony, M. Slater, M.W. Miller. Chronic *Trypanosoma cruzi* infection in dogs: 11 cases (1987–1996). *J Am Vet Med Assoc* 213:497–500, 1998.

Miles, M.A. The epidemiology of South American trypanosomiasis—Biochemical and immunological approaches and their relevance to control. *Trans R Soc Trop Med Hyg* 77:5–23, 1983.

Moncayo, A. Chagas' disease: Epidemiology and prospects for interruption in the Americas. *World Health Stat Q* 45:276–279, 1992.

Morães-Souza, H., J.O. Bordin. Strategies for prevention of transfusion-associated Chagas' disease. *Transfus Med Rev* 10:161–170, 1996.

Pan American Health Organization (PAHO). Situación de la enfermedad de Chagas en las Américas. *Bol Oficina Sanit Panam* 97:159–165, 1984.

Passos, A.D., J.L. Nogueira, J.F. de Castro Figueiredo, U.A. Gomes, A.L. Dal-Fabbro. Evolução da positividade sorológica para a doença de Chagas numa comunidade rural brasileira. *Rev Panam Salud Publica* 2:247–252, 1997.

Pietrzak, S.M., O.J. Pung. Trypanosomiasis in raccoons from Georgia. *J Wildl Dis* 34:132–136, 1998.

Puffer, R.R., G. Wynne Griffith. *Patterns of Urban Mortality.* Washington, D.C.: Pan American Health Organization; 1967. (Scientific Publication No. 151.)

Rangel, H., R. Gatica, C. Ramos. Detection of antibodies against *Trypanosoma cruzi* in donors from a blood bank in Cuernavaca, Morelos, Mexico. *Arch Med Res* 29:79–82, 1998.

Russomando, G., M.M. de Tomassone, I. de Guillen, *et al.* Treatment of congenital Chagas' disease diagnosed and followed up by the polymerase chain reaction. *Am J Trop Med Hyg* 59:487–491, 1998.

Schmunis, G.A., F. Zicker, F. Pinheiro, D. Brandling-Bennett. Risk for transfusion-transmitted infectious diseases in Central and South America. *Emerg Infect Dis* 4:5–11, 1998.

Schofield, C.J., J.C. Dias. The Southern Cone Initiative against Chagas' disease. *Adv Parasitol* 42:1–27, 1999.

Streiger, M., D. Fabbro, M. del Barco, R. Beltramino, N. Bovero. Chagas congénito en la ciudad de Santa Fe. Diagnóstico y tratamiento. *Medicina (B Aires)* 55:125–132, 1995.

Telford, S.R., Jr., R.J. Tonn, J. González, P. Betancourt. Dinámica de las infecciones tri-

panosómicas entre la comunidad de los bosques tropicales secos en los llanos altos de Venezuela. *Bol Dirección Malariol Saneam Ambient* 21:196–209, 1981.

Umezawa, E.S., S.F. Bastos, M.E. Camargo, *et al.* Evaluation of recombinant antigens for serodiagnosis of Chagas' disease in South and Central America. *J Clin Microbiol* 37:1554–1560, 1999.

Wanderley, D.M., F.M. Correa. Epidemiology of Chagas' heart disease. *Rev Paul Med* 113:742–749, 1995.

Zaidenberg, M., A. Segovia. Enfermedad de Chagas congénita en la ciudad de Salta, Argentina. *Rev Inst Med Trop Sao Paulo* 35:35–43, 1993.

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# CRYPTOSPORIDIOSIS [illegible]

**ICD-10 A07.2**

.*Cryptosporidium* [illegible]

[illegible] *Isospora* [illegible] *Toxoplasma* [illegible] *Sarcocystis* [illegible] *Cyclospora* [illegible] Sporazoa [illegible] Apicomplexa [illegible] coccidia [illegible] 20 [illegible] 1907 [illegible] 6 [illegible] .(Barrige, 1997) *parvum* [illegible] sporozoites [illegible] 4 [illegible] trophozoite [illegible] schizont [illegible] meront [illegible] 8 – 6 [illegible] I [illegible] 5

[illegible] 4 II [illegible] (merozoite [illegible]) [illegible] .gametocyste [illegible] (II [illegible]) [illegible] (I [illegible]) [illegible] microg- [illegible] .(macrogametocyte [illegible]) [illegible] (ametocyte [illegible] microgamete [illegible] 2 – 1 [illegible] .zygote [illegible] (%80 [illegible]) [illegible] 5 – 2.5 [illegible] .(Fayer and Ungar, 1986) [illegible]

[illegible] .(Benenson, 1997) [illegible] 6 [illegible] 50 [illegible]

1976 [illegible] %2 [illegible] %1 [illegible] %20 [illegible] %10 [illegible] %4.3 [illegible] %0.6 [illegible] %35 [illegible] %25 [illegible] 1993 [illegible] %65 [illegible] 1.6 [illegible] .(Lisle and Rose, 1995) 7 [illegible] 403.000 [illegible]

[illegible] %4.1 [illegible] 884 [illegible] .(Tzripori *et al.*, 1983) [illegible] 320 [illegible] %13 [illegible] %4 [illegible]

[illegible] 1971 [illegible] %62 [illegible] %80 [illegible] %31 – %15 [illegible] %25 [illegible] %0.6 [illegible]

[illegible] 20 – 8 [illegible] (°39 [illegible]) [illegible] .(Ryan, 1994) [illegible] 25 [illegible] 71 [illegible]

.(Clavel *et al.*, 1996) ɁȑÅţäöɍúȽ ÆÅʒ ÅǂÅgǗ ȻşäÅÅÔöä ŌǁĞÊöäş ɄÊÅÅQöä

gåÅʒ ɁşÆȞöä ÅȚȚǩ ·gK8Ôöä ȯɀDzȞöä Ž ʒaÅì ȟäɀǰäǰä ğÅǁÅǹ öäå ˙ğÅǂäɀƩΣä Ž ôÅţä

·ÅȠɀÅ [35]ş [3] ȸÅÅȶʒ ƙæ ğÅǂäɀƩΣä ǢƩÔǩş gÅƩΣä ȸȠ Ƃşǰä ǦQȲǯöä ʒǁæÅèǰä ȯȲǹ

ÅǁǁQ ǢȞÔöä ȸȠ ·ǰäɀöä ÆŌɀş ȽȚŌöäş tenesnus ƙǹÂöäş ȯÅȚèqä ɄȽ ǦÅÅÅÊöä ğäÅȽÅȚQöä

ǰɀèøÆǂǗ Ȁõæ ·ɁÅǹǗ ŌȠäɀʒ ȸʒ ȽDzÅÅöä ȯÅȚèqä ȸʒ *ȟäɀǰäǰä ǦǁÅǹ* ȸʒ ȽDzÅÅöä ȯÅȚèqä

ǦÊǁÔQţä ôɀǁöä ȟÅÅǩ ǨǂÅõ ÅȞǁÛę [47] ȸȠ ÅȠɀÅ [15 – 1] ÅȶȞä ÅȲDzʒ [51] ȸȠ [17] ǰǗ (1982)

Ž ôÅţä ȸʒ ÅǂÅgǗ ȠǁȲǦQöä Ź Æęş ·ȯÅȚèǗ ȸȠ ɄøǂÅȞÅ ǰÅõ ʒǁȶɘä ǰǗ ȽqǿǾ *ȟäɀǰäǰä ǦǁÅɭ*

Barriga,) ǦʒÅÅţä gàɀȞţä şǗ ÅǢDZ gK8Ôöä ğÅǂäɀƩΣä ÆÅʒ ǦÅDZäÆöä Ƚgäɀǰöäş ÅÅäÅÅɭäş ȯɀƩɭä

ţäɀǂüæ øɀǁÛöä āÅÔǩ ÅȠ ÅøåÅǂ · ôÅȶȲö ğÅȠȲʒ ȻÆǦǩ ɍ ǦÅÆȞÅţä ôøäɀÖöä ǰǗ şÆǦÅ .(1997

· ğÅǁÅÆǯöä ȻÆȞǩ ɄøQöä ɄȲǁÅÛöä

ǰşÅǹøä îÅÅìǰä ȽȽ ǰÅÊǂqä ɁşÆʒ øåÅÔȠ ˙ȯÅŌQɍä àÅüş ɁşÆȞöä øÆÔȠ

ȽȚȠ øÆÔȠ ɁÅǹǰä ğÅǂäɀƩΣä ǰǗ ɁȲʒ Ǧ8Ƞåä ǦǁÆä ÆDZɀǩ ɍ ·ǦÅÆȞÅţä ǦƩìÅţä şǗ ǰşÆȞÅţä

ƙæÅÔţä ɁȑÅȶȲö ǦǦgÅÔȠ ğÆDZş *ȟäɀǰäǰä ǦǁÅɅ* ǦÅÆȞÅţä ÙÛŌöä ǰǗ ȽqøşÆ ·ǰÅÊǂqä ɁşÆȞö

*ǦǁÅǹ* ǰǗ ǦǯÅÆΣä ğÅèäøÆöä ƘÎǩ ˙Ōõ ɁȲʒş ·ÅǹøäɁÆʒ ȻØöä ȸȠ 8ÅȞÅ ɍ ȼǂüɀ àÆÅqÅæ

ÅǹǕş ÛÙŌɀ ǰÅÊǂqä ȻÆȞÅ Ægäş ɄøÅDZ ÙɣʒȠ ÛǁǁÅǁDZ ȯÅÔìǗ åÆȞǩ ȻÆǦǩ*gKÔŌöä ȟäɀǰäǰä*

ÅʒäɀǂǗ ǦǁÅǁɘä ȓÅɏǰä ȻØȽ ŌǯQ Æę .(Peng *et al.*, 1997) ǰäÅÅÅöäş ǦƩìÅţäş ǰÅÊǂqä ȻÆȞÅ

·ǢȞò *ȟäɀǰäǰä ǦǁÅǹ* ţäɀǂǰ ȳÅQöä 8äÅȞQèɍä ǰǗ ɍǗ ÛǦÅȲQƯ

ʒÛŌţä ğÅèäøå ǨȞȑşǗ ·ɁÅǹǗ ǦÅDZäå ğÅǂäɀƩg ɀȽ ǦÅDZäÆöä ğÅǂäɀƩΣä ɁşÆʒ øÆÔȠ

ŌȶΣäş deer ŌÅǰäş ÂʒÅţä øÅ8ǒş ǰÅÊǂqä ȸȠ gåÅÅQÊţä ğÅǁȲǁÅÛöä ǰǗ ôÅȞQÊţä

ƙg Ž ÛŌDzȞöäş ŌȶΣäş ÅÅøÅɭä Ž ȯÅȚèqä ǢǦÊǩş ȻÆȞǩ ǰǗ ÅȚÅȯɀ ŌDzȞöäş lamb

Tzipovi,) ǮQÅţä ğÅǂäɀƩgş øɀȚţäş ǯÅDZÆöä Ž ôäÅʒüæ ǦäɀȞÔȠ ƘȡɁşÆʒ ȻǗ Ȼåüǩ

ǰäÅÅÅöäş ÙÛŌöäş ȯÅÅüǰä ȻǗ ȯɀDzȞöäş ǰÅÊǂqä ȸȠ ğäåÅÅQÊţä ŌŌǂ Ź Åȶõ ·(1983

ȻÆȞǩ ɍ øɀǁÛöä ȻÆȞǩ ɄøQöä *ȟäɀǰäǰä ǦǁÅǹ* ţäɀǂǗ .(Current, 1983) öäÅɘäş ȯɀDzȞöäş

·øɀǁÛöä ȻÆȞǩ ÅȠ ÅøåÅǂ ğÅǁÅÆǯöä ȻÆȞǩ ɄøQöä ţäɀǂǰäş Ûğ ÅǁÅÆǯöä

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] (Juraneck, 1995) [illegible] %99.9 [illegible] %99 [illegible] (CT) [illegible] 9.600 [illegible] 10 [illegible] 6 [illegible] °8 [illegible] °25 [illegible] 15 [illegible] 0.17 [illegible] (Barriga, 1997) [illegible] %25 [illegible] %50 [illegible] 4 [illegible]

%99.9 [illegible]

[illegible]

Anderson, B.C. Cryptosporidiosis: A review. *J Am Med Assoc* 180:1455–1457, 1982.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Benenson, A.S., ed. *Control of Communicable Diseases Manual*, 16th ed. An official report of the American Public Health Association. Washington, D.C: APHA; 1995.

Clavel, A., A.C. Arnal, E.C. Sanchez, *et al.* Respiratory cryptosporidiosis: Case series and review of the literature. *Infection* 24:341–346, 1996.

Current, W. L., N.C. Reese, J.V. Ernst, *et al.* Human cryptosporidiosis in immunocompetent and immunodeficient persons. Studies of an outbreak and experimental transmission. *New Engl J Med* 308(21):1252–1257, 1983.

Fayer, R., B.L. Ungar. *Cryptosporidium* spp. and cryptosporidiosis. *Microbiol Rev*

50:458–483, 1986.
Juraneck, D.D. Cryptosporidiosis: Sources of infection and guidelines for prevention. *Clin Infect Dis* Suppl 1:S57–61, 1995.
Lisle, J.T., J.B. Rose. *Cryptosporidium* contamination of water in the US and the UK: A mini-review. *J Water SRT-Aqua* 44:103–117, 1995.
Peng, M.M., L. Xiao, A.R. Freeman, *et al.* Genetic polymorphism among *Cryptosporidium parvum* isolates: Evidence of two distinct human transmission cycles. *Emerg Infect Dis* 3:567–573, 1997.
Ryan, K.J., ed. *Sherris Medical Microbiology: An Introduction to Infectious Diseases*, 3rd ed. Norwalk, Connecticut: Appleton & Lange; 1994.
Tzipori, S. Cryptosporidiosis in animals and humans. *Microbiol Rev* 47:84–96, 1983.
Tzipori, S., M. Smith, C. Birch, G. Barnes, R. Bishop. Cryptosporidiosis in hospital patients with gastroenteritis. *Am J Trop Med Hyg* 32:931–934, 1983.

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## CUTANEOUS LEISHMANIASIS [illegible]

**ICD-10 B55.1**

[illegible] espundia [illegible] Chiclero [illegible] buba [illegible] uta [illegible] pian- bois [illegible]

[illegible] *Leishmania* [illegible] macrophage [illegible] 5 – 2 [illegible] *Lutzomyia* [illegible] *Phlebotomus* [illegible] promastigotes [illegible] 4 – 2 [illegible] 20 – 14 [illegible]

[illegible] (Kettle, 1995) [illegible] .parasitophorous [illegible] (Antoine, 1995) [illegible]

[illegible] (Youssef *et al.,* 1997) [illegible] Barral *et al.,*) [illegible] .(1991 [illegible] *Vianna* [illegible] Harris *et al.,*) [illegible] .(1998 [illegible]

[illegible] serodemes [illegible] .(Kreutzer *et al.,* 1991)

[illegible] zymodemes [illegible] schizodemes [illegible] 137 [illegible] 10 (1977 [illegible]) [illegible] 44 [illegible] 1998 [illegible] .(Chulay, 1991) [illegible] .(Lainson and Shaw, 1974) [illegible] .*Nyssomyia* [illegible] .(NNN) [illegible] *Nyssomyia* [illegible] *Psychodopygus* [illegible] .(Bonfante-Garrido 1983) [illegible] NNN [illegible]

[illegible] :(1 [illegible]) [illegible]

[illegible] 1993 [illegible] *infantum* [illegible] (Melby *et al.*, 1992) [illegible] (Zeledón, 1992) [illegible] (1989) [illegible]

[illegible] (Machado *et al.*, 1983) [illegible] (Sellon *et al.*, 1993) [illegible] 1980 [illegible] (Bonfante-Garrido, 1984) [illegible] (Bonfante-Garrido, 1983) [illegible]

[illegible] 3000 – 900 [illegible] (WHO, 1984) [illegible] .(WHO, 1984) [illegible]

[illegible] (72 [illegible]) 88 [illegible] 600.000 [illegible] 2 – 1.5 [illegible] 4 [illegible] 350 – 320 [illegible] %90 [illegible] (Desjeux, 1992; WHO, 2003) [illegible] 12 [illegible] (WHO, 2003) [illegible] 22.368 [illegible] 1972 [illegible] 20.348 [illegible] 2.020 [illegible] (100.000 [illegible] 29.6) [illegible] 26.000 – 23.000 [illegible] 1987 [illegible] .(PAHO, 1975) (100.000 [illegible] 2.9) [illegible] 2.511 [illegible] (Lacerda, 1994) [illegible] 1985 [illegible]

·ǴȄȹĮȶ Î ȄŸöä ȜȘäǼȝ ǴɳŸɳ :1 ȯȘǼƨä

| ǕÊȄəÀöä Ȯę ÅÅöä | ǕÊȄəÀöä ţ ǻȥǪÊţä | ŽäÀȣƨä ţ äȥǪöä | Ǧɳ äŸǪţä | ţ ȥÅöä |
|---|---|---|---|---|
| | | | | ǴȮȄÊȮţä ǴȄȹĮȶ Î ȄŸöä ǼȮȞɳ |
| ǴȽǿäǿǿǼöä ǴȄɳȘÂǩȤŸöä | ô ǿäȥȮöä | ÛǕŸȽäȜȡöä ɉȘäĮɳɉä ÛÂȄŸȄæ ŸȽȘÂǿȤ ÛȮȄÊȮţä ÛɼĮȶȄǩäȥɖ | gÀ Î ǪĮɳ ǻǿǻĮȹȘ ǴȽǼŸDZ | ǴȮȄÊȮţä ǴȄȹĮȶ Î ȄŸöä |
| ǴȮȽǿǼöä ŏäÀĮȮöä ǴȄɳȘÂǩȤŸöä | ğ ĮȄĮǹȥöäȘ ô ǿäȥȮöä | ǕŸȽäȜȡöä ɉȘäĮɳɉä | gÀ Î ǪĮɳȘ ǴȽǼŸDZ | ǴȄȹȘäĮɳɉä ǴȄȹĮȶ Î ȄŸöä |
| ǴȽǿäǿǿǼöä ǴȄɳȘÂǩȤŸöä | ȣ ȘÀȞɳ Ƙɖ | ŸȽȘÂǿȤ | ǴȽǼŸDZ | ǴȄŸȽȘÂǿȤÅöä ǴȄȹĮȶ Î ȄŸöä |
| | | | | ǴȄŸȽäȜȡöä ǴȄȹĮȶ Î ȄŸöä ǼȮȞɳ |
| ǴǴǵĮţä ǴȄɳȘÂǩȤŸöä | ȃ ŸȮöä Û ô ǿäȥȮöä | ÛĮȄǴɳȥȮȥõ ÛȮȽäȜȡöä ÛĮȄĮȄöȥæ ÛŸȽȘÂǿȤ ÛȘƘä ÛɃäȥɖǿĮæ | ǴȄùĮƯ ǴȽǼŸDZȘ ǴȽǼŸDZ | ǴȄŸȽäȜȡöä ǴȄȹĮȶ Î ȄŸöä |
| ǴȽǼȄäĮǪöä ǴȄɳÂǩȤŸöä | ɈŸÊȮöä | ĮȶĮæ ÛĮȄǴɳȥȮȥõ ÛĮȮȽǿĮǪèȥõ | ǴȽǼŸDZ ǴȄùĮƯ ǻǿǻĮȹȘ ǴȽǼŸDZ | ǴȄyĮǴöä ǴȄȹĮȶ Î ȄŸöä |
| | Ȯȶ Åöä ğ ŸõǓ ÛɈ ŸÊȮöä | ĮȹĮȽȥɖ ÛȳĮȽȽƘè ǴȄÊȹÀÅöä ĮȹĮȽäȥɖ | ǴȽǼŸDZ | ǴȄȹĮȽȥȣöä ǴȄȹĮȶ Î ȄŸöä |
| ǴȄɳÂǩȤŸöä ÛǴȄȹȘƘǴöä ǴȄȹĮȶ Î ȄŸöä ǴȄöȥöǔǯöä | ȃ ŸȮöä | ȘƘǴöä Û ƙǪDZǿ ɉä | ǴȽǼŸDZ | ǴȄȥȘƘǴöä ǴȄȹĮȶ Î ȄŸöä |

[illegible] %16.7 [illegible] (1998) [illegible] %34 (Armijos *et al.*, 1997) [illegible] %47 [illegible] Sharifi *et al.*,) [illegible] 11.517 [illegible] %20 – 10.7 (Pignatti *et al.*,1995) [illegible] .(Yaghoobi-Ershadi and Javadian, 1995) [illegible] 4 [illegible] .%64.8 (1998

[illegible] .(Carvalho *et al.*, 1995) [illegible] .(Agostoni *et al.*, 1998) [illegible]

[illegible] earflap [illegible] 6 [illegible]

WHO,) ³ .(1984

L. canis .(Santos *et al.*, 1998)

270 %31.5 %25.1 .%40.5

116 28 .(%15) 17 (Bonfaste-Garrido *et al.*, 1981)

[illegible] *proechimys* [illegible] dermis [illegible]

[illegible] edentate [illegible] *Lutzomyia* [illegible] 1983 [illegible] (WHO. 1984) [illegible] (WHO, 1984) [illegible]

[illegible] (Rhombomys opimus) [illegible]
[illegible] Meriones [illegible]
Psammomys obesus [illegible]
[illegible] Mastomys [illegible]

[illegible] (1982) [illegible]

[illegible]
.Procavia capensis, Heterolyrax brucei, Dendrohyrax arboreux [illegible] Hyraxes

[illegible] %80 [illegible]
[illegible] Psychodopygus intermedius

.(Tolezano *et al.*, 1998) [illegible]

[illegible] (Bonfante-Garrido *et al.*, 1984) [illegible]

[illegible] %70 [illegible] scarpins [illegible] Parasitologic [illegible]
.(Cuba Cuba *et al.*, 1981)

[illegible] NNN [illegible] %30 [illegible] Schneider's Drosophila [illegible] promastigotes [illegible]

[illegible] 6 [illegible]

[illegible] 72 – 48 [illegible] hypersensitivity [illegible] .(Amato Neto *et al.,* 1996) [illegible] Cuba Cuba *et al.,*) [illegible] G [illegible] A [illegible] .(1981 .(Lainson, 1983) [illegible]

[illegible] %80 – 70 [illegible] .(WHO, 1984) [illegible] 3 – 2 [illegible] %93 [illegible] %80 [illegible] .Southern [illegible] Andersen *et al.,*) [illegible] %48 [illegible] %76 [illegible] .(1996

[illegible]

[illegible] %72.9 [illegible] (1998) [illegible]

.BCG adjuvant [illegible]

## ŨøШĘþøǲǁĘ


Agostoni, C., N. Dorigoni, A. Malfitano, *et al.* Mediterranean leishmaniasis in HIV-infected patients: Epidemiological, clinical, and diagnostic features of 22 cases. *Infection* 26:93–99, 1998.

Amato Neto, V., C.R. De Marchi, M.C. Guimarães, A. Salebian, L.C. Cuce, L. Matsubara. Avaliação de eventual influência da intradermorreação de Montenegro sobre prova sorologica para o diagnóstico da Leishmaniose tegumentar americana. *Rev Hosp Clin Fac Med Univ Sao Paulo* 51:217–219, 1996.

Andresen, K., A. Gaafar, A.M. El-Hassan, *et al.* Evaluation of the polymerase chain reaction in the diagnosis of cutaneous leishmaniasis due to *Leishmania major*: A comparison with direct microscopy of smears and sections from lesions. *Trans R Soc Trop Med Hyg* 90:133–135, 1996.

Antoine, J.C. Biologie des interactions macrophages *Leishmania*. *Pathol Biol* (Paris) 43: 215–223, 1995.

Armijos, R.X., M.M. Weigel, R. Izurieta, *et al.* The epidemiology of cutaneous leishmaniasis in subtropical Ecuador. *Trop Med Int Health* 2:140–152, 1997.

Armijos, R.X., M.M. Weigel, H. Aviles, R. Maldonado, J. Racines. Field trial of a vaccine against New World cutaneous leishmaniasis in an at-risk child population: Safety, immunogenicity, and efficacy during the first 12 months of follow-up. *J Infect Dis* 177:1352–1357, 1998.

Barral, A., D. Pedral-Sampaio, G. Grimaldi, Jr., *et al.* Leishmaniasis in Bahia, Brazil: Evidence that *Leishmania amazonensis* produces a wide spectrum of clinical disease. *Am J Trop Med Hyg* 44:536–546, 1991.

Blackwell, J.M. Parasite genome analysis. Progress in the *Leishmania* genome project. *Trans R Soc Trop Med Hyg* 91:107–110, 1997.

Bonfante-Garrido, R. Leishmanias y leishmaniasis tegumentaria en América Latina. *Bol Of Sanit Panam* 95:418–426, 1983.

Bonfante-Garrido, R., E. Melendez, R. Torres, N. Murillo, C. Arredondo, I. Urdaneta. Enzootic equine cutaneous leishmaniasis in Venezuela. *Trans R Soc Trop Med Hyg* 75:471, 1981.

Bonfante-Garrido, R., S. Barroeta, M. A. Mejia de Alejos, *et al.* Leishmaniasis tegumentaria urbana en Barquisimeto, Venezuela. *Bol Of Sanit Panam* 97:105–110, 1984.

Carvalho, E.M., D. Correia Filho, O. Bacellar, R.P. Almeida, H. Lessa, H. Rocha. Characterization of the immune response in subjects with self-healing cutaneous leishmaniasis. *Am J Trop Med Hyg* 53:273–277, 1995.

Chouicha, N., G. Lanotte, F. Pratlong, C.A. Cuba Cuba, I.D. Velez, J.P. Dedet. Phylogenetic taxonomy of *Leishmania (Viannia) braziliensis* based on isoenzymatic study of 137 isolates. *Parasitology* 115:343–348, 1997.

Chulay, J.D. Leishmaniasis, cutaneous leishmaniasis of the Old World, and cutaneous leishmaniasis of the New World. *In*: Strickland, G.T., ed. *Hunter's Tropical Medicine*, 7th ed. Philadelphia: Saunders; 1991.

Cuba Cuba, C.A., P.D. Marsden, A.C. Barreto, R. Rocha, R.R. Sampaio, L. Patzlaff. Parasitologic and immunologic diagnosis of American (mucocutaneous) leishmaniasis. *Bull Pan Am Health Organ* 15:249–259, 1981.

Desjeux P. Human leishmaniases: Epidemiology and public health aspects. *World Health Stat Q* 45:267–275, 1992.

Grimaldi, G., R.B. Tesh, D. McMahon-Pratt. A review of the geographic distribution and epidemiology of leishmaniasis in the New World. *Am J Trop Med Hyg* 41:687–725, 1989.

Harris, E., G. Kropp, A. Belli, B. Rodriguez, N. Agabian. Single-step multiplex PCR assay for characterization of New World *Leishmania* complexes. *J Clin Microbiol* 36:1989–1995, 1998.

Jorquera, A., E. Ledezma, L. De Sousa, *et al.* Epidemiologic characterization of American cutaneous leishmaniasis in an endemic region of eastern Venezuela. *Am J Trop Med Hyg* 58: 589–593, 1998.

Kapoor, G.S, S.K. Arora, S. Sehgal. Genetic polymorphism of *Leishmania* species using kinetoplast DNA restriction fragment length polymorphism and cDNA probe of *Leishmania donovani*. *Med Microbiol Immunol (Berl)* 186:209–214, 1998.

Kettle, D.S. *Medical and Veterinary Entomology*, 2nd ed. Wallingford: CAB International; 1995.

Kreutzer, R.D., A. Corredor, G. Grimaldi, *et al.* Characterization of *Leishmania colombiensis* sp. n (Kinetoplastida: Trypanosomatidae), a new parasite infecting humans, animals, and phlebotomine sand flies in Colombia and Panama. *Am J Trop Med Hyg* 44:662–675, 1991.

Lacerda, M.M. The Brazilian leishmaniasis control program. *Mem Inst Oswaldo Cruz* 89:489–495, 1994.

Lainson, R. Epidemiologia e ecologia de leishmaniose tegumentar na Amazonia. *Hileia Med* (Belem) 3:35–40, 1981.

Lainson, R. Leishmaniasis. *In*: Jacobs, L., P. Arámbulo, section eds. Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Lainson, R. The American leishmaniases: some observations on their ecology and epidemiology. *Trans R Soc Trop Med Hyg* 77:569–596, 1983.

Lainson, R., J.J. Shaw. Las leishmanias y la leishmaniasis del Nuevo Mundo, con particular referencia al Brasil. *Bol Oficina Sanit Panam* 76:93–114, 1974.

Machado, M. I., R.V. Milder, G. Grimaldi, H. Momen. Identification *of Leishmania mexicana mexicana* in the state of Sao Paulo, Brazil. *Rev Inst Med Trop S Paulo* 25:97, 1983.

Melby, P.C., R.D. Kreutzer, D. McMahon-Pratt, A.A. Gam, F.A. Neva. Cutaneous leishmaniasis: Review of 59 cases seen at the National Institutes of Health. *Clin Infect Dis* 15:924–937, 1992.

Momen, H., R.S. Pacheco, E. Cupolillo, G. Grimaldi, Jr. Molecular evidence for the importation of Old World *Leishmania* into the Americas. *Biol Res* 26:249–255, 1993.

Pan American Health Organization (PAHO). *Reported Cases of Notifiable Diseases in the Americas, 1970–1972.* Washington, D.C.: PAHO; 1975. (Scientific Publication 308).

Pignatti, MG., R.C. Mayo, M.J. Alves, S.S. Souza, F. Macedo, R.M. Pereira. Leishmaniose tegumentar americana na região nordeste do estado de São Paulo-Brasil. *Rev Soc Bras Med Trop* 28:243–247, 1995.

Santos, E.G., M.C. Marzochi, N.F. Conceição, C.M. Brito, R.S. Pacheco. Epidemiological survey on canine population with the use of immunoleish skin test in endemic areas of human American cutaneous leishmaniasis in the state of Rio de Janeiro, Brazil. *Rev Inst Med Trop Sao Paulo* 40:41–47, 1998.

Sellon, R.K., M.M. Menard, D.J. Meuten, E.J. Lengerich, F.J. Steurer, E.B. Breitschwerdt. Endemic visceral leishmaniasis in a dog from Texas. *J Vet Internal Med* 7:16–19, 1993.

Sharifi, I., A.R. Fekri, M.R. Aflatonian, A. Nadim, Y. Nikian, A. Kamesipour. Cutaneous leishmaniasis in primary school children in the south-eastern Iranian city of Bam, 1994–95. *Bull World Health Organ* 76:289–293, 1998.

Tolezano, J.E., S.A. Macoris, J.M.P. Diniz. Modificação na epidemiologia da leishmaniose tegumentar no Vale do Ribeira, Estado de São Paulo, Brasil. *Rev Inst A Lutz* 40:49–54, 1980.

World Health Organization (WHO). *The Leishmaniases*. Report of a WHO Expert Committee. Geneva: WHO; 1984. (Technical Report Series 701).

World Health Organization (WHO). *Control of the Leishmaniases. Report of a WHO Expert Committee*. Geneva: WHO; 1990:155. (Technical Report Series 793).

World Health Organization (WHO). The Leishmaniases and *Leishmania*/HIV Co-infections. May 2000 [web page]. Available at www.who.int/inf-fs/en/fact116.html. Accessed January 2003.

Yaghoobi-Ershadi, M.R., E. Javadian. Leishmaniose cutanée zoonotique au nord d'Ispahan. Le point sur l'infection humaine en 1991. *Bull Soc Pathol Exot* 88:42–45, 1995.

Youssef, M.Y., M.M. Eissa, S.T. el Mansoury. Confirmation of clinical differentiation of three Leishmania strains by computerized image analyser system. *J Egypt Soc Parasitol* 27:553–561, 1997.

Zeledon, R. Leishmaniasis in the Caribbean Islands. A review. *Ann N Y Acad Sci* 653:154–160, 1992.

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## CYCLOSPORIASIS ƶəƐNjǤlƐ lƑĭšǂѲ ƅƐƣ

ǕCyclospora cayetanensis ŋəäʐǤöä ǦƐÖŸǵ ȸȝ ŋəäʐǤöä ğȦƐÖŸǵ ŏäấ ɭǅʐȺ ̇ ğȦƐǤǤÊöä ǦƐÁǹ ɄÊȺɘ ȀȺȺÀèȿ *Eimeria* ǦȺÃɼqấ ÈȺɘ ȀƐȺƐÔǩ ɄȶǬȺǩ coccidium ǦȺÀõǕ ɄĿȿ Û ô Àţä ȸȝ ğÀÖǤţä ȺȺøȦÖǬöä ğÀõǽ .*Isospora* ŋəäʐǤöä ǦŸǬȦȶǬȿ *Cryptosporidium* ȟäʐäɉä ɃÀÎǤöä äǟǝöä Ž cyanobacteria ɭƐęäøÂöä ȼǤÎǩ ȳȦÊǅʐǕ ấʐǅʐȿ 1986 ȳȦȝ ȿǨǤöä ȸŋ ǤŋấȦÖöäȿ ȺƐȺƐɖ Ž ǨȚǵʐö ǤöȦÎŋ Ǧƒǵ ğȦȺəȦõ õȦȺȽ ·ǦȺȦõɉä ȦȚǬǶƐǤù ǦÖǵŸöä ğȦèäøÆöä ğÀȚȿǕȿ

.(Sterling and Ortega, 1999) ŋəäʐǤöä ǦŸǬȦȶǬŋ ƙäȿ ȦȚȺƐä ÙŸʅä Źȿ 1977 ȳȦȝ ğÆȺÆɘä ğäÆȽȦÎŋ ȷǕ ɼǕ ·ȷȼä ʔøǬǵ ŌŋȦõ ŌȮÎä ǤʐȿÀȞŋ Ƙɖ ŋəäʐǤöä ǦƐÖŸǵ ğȦƐǵ ǵøȿấ ȻØȽ ȷüä ɄǵʐȺ Ûøʐŋɉä ȸŋ ǨǯÖöä Ž ʔÀǹɉä ğȦȺÀõƣö ȸəȦÖöä ȼȻì ƂǕ ǦʐȦȓǕ ÛǵÆȺÆȝ ȺȺǬŸö ǦȺøȦȚȚöä ȺȺŸʅä Ž ğấʐǅʐʐŋ ǦǅʐȓȦƥ oocysts ǦƐÊƐõ ô ʐƐä Ž ğấʐǅʐʐţä ğȦƐŸƐȦÛöä äæǕ ȦȶƐʐ ȣÀȞȺ ɼ .merozoites ɭƐèȦęɉä ŌȮÎǬö ȀƐÊȺǅʐ ɼ Ȥȝ ȦȒǬǩ ǬƐǵ ɭəȦÔöäȿ ɃÀÎȝ ȸŋ ǦƐȹȦǯöä ǦŸǵÀţä ÜƐǤǬö ǵÆȺÆǅʐ ȺȺȲǹ ȿÀȣǩȿ ɃʐǯöäǦƐŸǹ øấȦȣǩ ȷǕ ȯȦÒìɉä ȻØȽ ʔŸȝ ȷȦõ ɄøǬöäȿ ÛǦÊƐÖǬţä ô ʐƐǤöä ǯÀơ ·ǦÊƐÖǬţä ô ʐƐǤöä ŌȮÎǬä ɭǬǬƸ ɃØöäȿ ÛɄÊȺɘä ȤȝȦȒǬöä ô ʐƐǤöä ɃʐǬƠ ·äǟǝöä ȝŋ ɭÊɘä ȸŋ ÛǦȺÆȞŋ ǤǤÔǬö ǦƐǅʐøȦʅä ǦȺƐǤöä Ž ȟʐǤǬǩ ȷǕ ȦȚƐȝ

[illegible] sporocysts [illegible] .(Ortega *et al.*, 1998) sporozoites [illegible]

[illegible] Drenaggi *et*) [illegible] .(*al.*, 1998

[illegible] 4 – 2 [illegible] .(%20 [illegible] %1 [illegible]

[illegible] 2000 [illegible] ferret [illegible]

[illegible] 8 – 6 [illegible] 11 [illegible] 12 [illegible] .(Looney, 1998) [illegible] 3 [illegible] 12 ± 37 [illegible] 8 ± 28 [illegible] 63 [illegible] %68 [illegible] .(Nassef *et al.*, 1998) [illegible] 5 [illegible] 4 – 2 [illegible]

[illegible] .(Madico *et al.*, 1997) [illegible] .(Connor, 1997) crypts [illegible] %20 – 15 [illegible] .(Eberhard *et al.*, 1999) [illegible]

[illegible] .([illegible]

[illegible] .(Katz *et al.*, 1996) [illegible] 1.400 [illegible] 5.552 [illegible] .%6.7 [illegible] %2.3 [illegible] .(Bern *et al.*, 1999) [illegible] %14.5 [illegible] 1997 [illegible] vehicle [illegible] %1.8 [illegible] (López *et al.*, 1999) [illegible] .(Gascon *et al.*, 2001) [illegible] 1999 [illegible] %56 [illegible] %9 [illegible] Blastocystis [illegible] %12 [illegible] %50 [illegible] (1988) [illegible] .(Khalifa *et al.*, 2001) %3 [illegible]

[illegible]

[illegible] 10 – 8 [illegible] .(Ortega *et al.*, 1998) [illegible] phase contract [illegible] calcoflour [illegible] .(Negm, 1998) [illegible]

[illegible] parasitoses [illegible] *Blastocystis* [illegible] 8 [illegible] 4 [illegible] microsporidia [illegible] .(Khalifa *et al.*, 2001)

[illegible]


Bern, C., B. Hernandez, M.B. Lopez, *et al.* Epidemiologic studies of *Cyclospora cayetanensis* in Guatemala. *Emerg Infect Dis* 5:766–774, 1999.

Drenaggi, D., Cirioni, O., Giacometti, A., *et al.* Cyclosporiasis in a traveler returning from South America. *J Travel Med* 5:153–155, 1998.

Connor, B.A. *Cyclospora* infection: A review. *Ann Acad Med Singapore* 26(5):632–636, 1997.

Eberhard, M.L., E.K. Nace, A.R. Freeman, *et al. Cyclospora cayetanensis* infections in Haiti: A common occurrence in the absence of watery diarrhea. *Am J Trop Med Hyg* 60(4):584–586, 1999.

Eberhard, M.L., Y.R. Ortega, D.E. Hanes, *et al.* Attempts to establish experimental *Cyclospora cayetanensis* infection in laboratory animals. *J Parasitol* 86(3):577–582, 2000.

Gascon, J., M. Alvarez, E.M. Valls, *et al.* Ciclosporiasis: estudio clinicoepidemiológico en viajeros con *Cyclospora cayetanensis* importada. *Med Clin* (Spain) 116(12):461–464, 2001.

Khalifa, A.M., M.M. El Temsahy, I.F. Abou El Naga. Effect of ozone on the viability of some protozoa in drinking water. *J Egypt Soc Parasitol* 31(2):603–616, 2001.

Katz, D., S. Kumar, J. Malecki, *et al.* Cyclosporiasis associated with imported raspberries, Florida, 1996. *Public Health Rep* 114(5):427–438, 1999.
Looney, W.J. *Cyclospora* species as a cause of diarrhoea in humans. *Br J Biomed Sc* 55:157–161, 1998.
Lopez, A.S., D.R. Dodson, M.J. Arrowood, *et al.* Outbreak of cyclosporiasis associated with basil in Missouri in 1999. *Clin Infect Dis* 32(7):1010–1017, 2001.
Madico, G., J. McDonald, R.H. Gilman, *et al.* Epidemiology and treatment of *Cyclospora cayetanensis* infection in Peruvian children. *Clin Infect Dis* 24(5):977–981, 1997.
Nassef, N.E., S.A. el-Ahl, O.K. el-Shafee, *et al.* Cyclospora: A newly identified protozoan pathogen of man. *J Egypt Soc Parasitol* 28(1):213–219, 1998.
Negm, A.Y. Identification of *Cyclospora cayetanensis* in stool using different stains. *J Egypt Soc Parasitol* 28(2):429–436, 1998.
Ortega,Y.R., C.R. Sterling, R.H. Gilman. *Cyclospora cayetanensis*. *Adv Parasitol* 40: 399–418, 1998.
Ortega, Y.R., C.R. Roxas, R.H. Gilman, *et al.* Isolation of *Cryptosporidium parvum* and *Cyclospora cayetanensis* from vegetables collected in markets of an endemic region in Peru. *Am J Trop Med Hyg* 57(6):683–686, 1997.
Sterling, C.R., Y.R. Ortega. *Cyclospora*: An enigma worth unraveling. *Emerg Infect Dis* 5(1):48–53, 1999.
Sturbaum, G.D., Y.R. Ortega, R.H. Gilman, *et al.* Detection of *Cyclospora cayetanensis* in wastewater. *Appl Environ Microbiol* 64(6):2284–2286, 1998.

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# GIARDIASIS ꞁ ƑĭƍþƑĭɯǁɛ ƅɛƍ

**ICD-10 A07.1**

ȴDZÀÀöä öÀĦŋɟä āÀȚǪöä) *ǦÀåøÀÈƨÀ* öÀĦŋɟä āÀȚǪöä ûLambliasis ğÀÈŸĢȶŸöä öäá ·ğÀʐåäÀʈä ·(*ǦÀåøÀÈƨã* ȸʒ

Ǩƍ·ȣŸǹ ʒȓʐŋ *Giardia* *ǦÀåøÀÈƨã* ÈÀDZ ȸŋ ʈʐÀöä ʐÈÀÔǩ ȯäà Àŋ ·ğÀÈǤǤÊöä ÆÈÔǩ ɄøǪöäʂ intestinalis *ǦÀʐȞʈã ǦÀåøÀÈƨã* ·ǦÈDZʐöʐʐøʐŋ ȯÀÔɩǕ ǦǫŸǫ ʔŸʒ ǦŌʐäʐʈä ÛøʐÈÛöä ÆÈÔǩ Ʉø Ǫöä *muris* *ǦÀøüÀöä ǦÀåøÀÈƨã* ·ʔÀǹǕ ğÀÈÀÆǫʂ ǦÀDZäÆöä ğÀφäʐÈΣäʂ ȷÀÊφqã Barriga 1997;) ûøʐÈÛöäʂ ğÀÈƏÀŋƎöä ÆÈÔǩ ɄøǪöä *agilis* *ǦÛÈÎÀöä ǦÀåøÀÈƨÀʂ* ûʐ ǥäʂÂöäʂ ɃØöä Ƀʐǯöä ÑÖǦü öÀƨǕ ǨÈÛʒǕʂ ǥǨǯõ ʈäʐφǕ ÑÖäÀè ǨÀöʂ Æʂ ȼφǕ ȴďøʂ ·(Meyer, 1990 *ǦÈƏÀÈÀÔöä ǦÀåøÀÈƨã ÛǦÈǤŸÖöä ǦÀåøÀÈƨã ÛǦÀÄŐǤöä ǦÀåøÀÈƨã* ·ȯÀǯʈã ŌÈǤè ʔŸʒ ¯ ȼÈʐ ğÆDZʂ ȸʒ ǦÀåøÀÈƨã ʔʂÆʒ ȴDZÀǩ ·ÀȚÀÈä ǄÀÀÀǪŸö ǦĦȓäʂ ǥåÆȚ ƘÀÀĦŋ ÆDZʐǩ ɟ ȼφǕ ɟǕ ¯ *Caviae*

[illegible] G. Lambila [illegible] 1859 [illegible] 1915 [illegible] .(Adam, 1991) [illegible]

[illegible] 19 – 10 [illegible] .transmission [illegible] 4 – 2 [illegible] 12 – 5 [illegible] ventral [illegible] 10 – 7 [illegible] 13 – 8 × [illegible] 4 [illegible] °21 [illegible] °8 [illegible]

[illegible] °20 [illegible]

[illegible]

[illegible]

[illegible] %15 [illegible] %4 [illegible] %2 [illegible] 22 [illegible] 25 [illegible] 2.567 [illegible] 2.366 [illegible] 1596 – 1595 [illegible] 1994 – 1993 [illegible] %40 [illegible] Kramer *et al.*, 1986; Levy *et al.*,) [illegible] %9 [illegible] 46.000 [illegible] 1974 [illegible] .(1998 [illegible] (%10.4) [illegible] 4.800 [illegible] Knight,) [illegible] %20 [illegible] .(1980 [illegible] 15 [illegible] 21 [illegible] .(Kulda and Nohynková, 1978) [illegible] 17 [illegible] .(Lindo *et al.*, 1998) [illegible]

[illegible] %35 – %20 [illegible] %80 – %6 [illegible] %90 – %50 [illegible] %15 – %10 [illegible] .(Xiao, 1994) [illegible] %44 – %7 [illegible] %0.02 – %17 [illegible] %7 [illegible] %3.4 [illegible] 494 [illegible] %53.2 [illegible]

[illegible] %6 [illegible] %18 [illegible] %10 [illegible] .(Meyer and Iarroll, 1982) *muris* [illegible]

.(Flanagan, 1992; Farthing, 1996) [illegible] 1996 [illegible] .(Benenson, 1997) [illegible] $25^{-3}$ [illegible] 4 − 3 [illegible] 1997 − 1995 [illegible] .zymodeme [illegible] 47 [illegible] 1995 [illegible] 1996 [illegible]

[illegible] Zajac 1992;) [illegible] .(Olson *et al.*, 1995 [illegible]

[illegible] (ID50) [illegible] 900 [illegible] 10 [illegible] .(Knight, 1980) [illegible]

.(Hill, 1993) [illegible] 57 [illegible] 264 (1997) [illegible] %3 [illegible] %2 [illegible] %8 [illegible] hpochlorhydria [illegible] Protein-aloric [illegible] Knight,) [illegible] A [illegible]

.(1980

[illegible] .cross-species [illegible]

[illegible] Gerbilus) gerbils [illegible] (norvegicus [illegible]) [illegible] (Procyon lotor) [illegible] (Ovis musimon) [illegible] (gerbillus [illegible] (Ovis canadensis) bighorn [illegible] .(Antilocopra amoricana) [illegible] (beaver [illegible]) [illegible] .(WHO, 1981) [illegible] .(Meyer and Radulescu, 1979) [illegible] resurgence [illegible] 1967 [illegible] 128 [illegible] 6 [illegible] cross-trans [illegible] 6 [illegible] 1978 [illegible] .(Armstrong *et al*., 1979) [illegible] gibbon [illegible] (1995) [illegible]

[illegible] García and) [illegible] (Bruckner, 1997 [illegible] (Winiecka-Krusnell, 1995) [illegible] 2.3 [illegible] (Hill, 1993) [illegible] Isaac-Renton *et al.*, 1994 [illegible]

[illegible] flocculation [illegible] (CDC, 1977) [illegible]

[illegible]

[illegible] .(Meyer and Jarroll, 1982) [illegible]

[illegible] Dorea *et*) [illegible] .(*al.*, 1996 Olson *et*) [illegible] .(*al.*, 1996 Isaac-) [illegible] 5 [illegible] .(Renton *et al.*, 1994

[illegible] Bielec *et al.*, 1996; Kaucner and Stinear,) [illegible] .(1998

[illegible]


Adam, R.D. The biology of *Giardia* spp. *Microbiol Rev* 55(4):706–732, 1991.

Armstrong, J., R.E. Hertzog, R.T. Hall, G.L. Hoff. Giardiasis in apes and zoo attendants, Kansas City, Missouri. *CDC Vet Public Health Notes*, January(7-8), 1979.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Benenson, A.S., ed. *Control of Communicable Diseases Manual*, 17th edition. Washington, D.C.: American Public Health Association; 1997.

Bielec, L., T.C. Boisvert, S.G. Jackson. Modified procedure for recovery of *Giardia* cysts from diverse water sources. *Lett Appl Microbiol* 22(1):21–25, 1996.

Cevallos, A., S. Carnaby, M. James, J.G. Farthing. Small intestinal injury in a neonatal rat model of giardiasis is strain dependent. *Gastroenterology* 109(3):766–773, 1995.

Dorea, R.C., E. Salata, C.R. Padovani, G.L. dos Anjos. Control of parasitic infections among school children in the peri-urban area of Botucatu, Sao Paulo, Brazil. *Rev Soc Bras Med Trop* 29(5):425–430, 1996.

Farthing, M.J. Giardiasis. *Gastroenterol Clin North Am* 25(3):493–515, 1996.

Flanagan, P.A. *Giardia*—diagnosis, clinical course and epidemiology. A review. *Epidemiol Infect* 109(1):1–22, 1992.

García, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Hill, D.R. Giardiasis: Issues in diagnosis and management. *Infect Dis Clin North Am* 7(3):503–525, 1993.

Isaac-Renton, J.L., L.F. Lewis, C.S. Ong, M.F. Nulsen. A second community outbreak of waterborne giardiasis in Canada and serological investigation of patients. *Trans R Soc Trop Med Hyg* 88(4):395–399, 1994.

Kaucner, C., T. Stinear. Sensitive and rapid detection of viable *Giardia* cysts and *Cryptosporidium parvum* oocysts in large-volume water samples with wound fiberglass cartridge filters and reverse transcription-PCR. *Appl Environ Microbiol* 64(5):1743–1749, 1998.

Knight, R. Epidemiology and transmission of giardiasis. *Trans R Soc Trop Med Hyg* 74: 433–436, 1980.

Kramer, M.H., B.L. Herwaldt, G.F. Craun, R.L. Calderón, D.D. Juranek. Surveillance for waterborne-disease outbreaks—United States, 1993–1994. *MMWR Morb Mortal Wkly Rep CDC Surveill Summ* 45(1):1–33, 1996.

Kulda, J., E. Nohýnková. Flagellates of the human intestine and of intestines of other species. *In*: Kreier, J.P., ed. Vol. 2: *Parasitic Protozoa*. New York: Academic Press; 1978.

Levy, D.A., M.S. Bens, G.F. Craun, R.L. Calderón, B.L. Herwaldt. Surveillance for waterborne-disease outbreaks—United States, 1995–1996. *MMWR Morb Mortal Wkly Rep CDC Surveill Summ* 47(1):1–34, 1998.

Lindo, J.F., J.M. Dubon, A.L. Ager, *et al*. Intestinal parasitic infections in human immunodeficiency virus (HIV)-positive and HIV-negative individuals in San Pedro Sula, Honduras. *Am J Trop Med Hyg* 58(4):431–435, 1998.

Meloni, B.P., A.J. Lymbery, R.C. Thompson. Genetic characterization of isolates of *Giardia duodenalis* by enzyme electrophoresis: Implications for reproductive biology, population structure, taxonomy, and epidemiology. *J Parasitol* 81(3):368–383, 1995.

Meyer, E.A., ed. *Giardiasis*. Amsterdam: Elsevier; 1990.

Meyer, E.A., S. Radulescu. *Giardia* and giardiasis. *Adv Parasit* 17:1–47, 1979.

Meyer, E.A., E.L. Jarroll. Giardiasis. *In*: Jacobs, L., P. Arámbulo. Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Olson, M.E., T.A. McAllister, L. Deselliers, *et al*. Effect of giardiasis on production in a domestic ruminant (lamb) model. *Am J Vet Res* 56(11):1470–1474, 1995.

Olson, M.E., D.W. Morck, H. Ceri. The efficacy of a *Giardia lamblia* vaccine in kittens. *Can J Vet Res* 60(4):249–256, 1996.

Rajeshwari, K., N. Jaggi, V. Aggarwal, K.K. Kalra, S.K. Mittal, U. Baveja. Determinants of symptomatic giardiasis in childhood. *Trop Gastroenterol* 17(2):70–76, 1996.

Rezende, C.H. de, J.M. Costa-Cruz, M.L. Gennari-Cardoso. Enteroparasitoses em manipuladores de alimentos de escolas públicas em Uberlândia (Minas Gerais), Brasil. *Rev Panam Salud Publica* 2(6):392–397, 1997.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Water-borne giardiasis outbreaks. Washington, New Hampshire. *Morb Mortal Wkly Rep* 26:169–170, 1977.

Winiecka-Krusnell, J., E. Linder. Detection of *Giardia lamblia* cysts in stool samples by immunofluorescence using monoclonal antibody. *Eur J Clin Microbiol Infect Dis* 14(3): 218–222, 1995.

World Health Organization (WHO). *Infecciones intestinales por protozoos y helmintos. Informe de un Grupo Científico de la OMS*. Geneva: WHO; 1981. (Technical Report Series 666).

Xiao, L. *Giardia* infections in farm animals. *Parasitol Today* 10:436–438, 1994.
Zajac, A.M. Giardiasis. *Comp Cont Educ Vet Pract* 14:604–611, 1992.

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# [illegible]
# INFECTIONS CAUSED BY FREE-LIVING AMEBAE

### [illegible] B60.2 [illegible] ICD-10 B60.1

### ICD-10 B60.1 Acanthamebiasis, B60.2 Naegleriasis

[illegible]

[illegible] (*Fowleri* [illegible]) *Naegleria* [illegible] *Culbertsoni* [illegible] *Castellanii* [illegible]) *Acanthamoeba* [illegible] (*Asrtonyxis* [illegible] *Polyphaga* [illegible] (*mandrillaris* [illegible]) *Balamuthina* (1993) [illegible] (leptomxid [illegible]) Leptomyxida [illegible] (Maríinez and Visvesvava, 1997) [illegible] *VahlKampfia* [illegible] *Hartmanella* [illegible]

[illegible] amebiod [illegible] 20 [illegible] 7 [illegible]

şǗ ǰǨÊǖā Ž ƟøφǖǤŋɟā ŌÒÎǖā ŌǑǪǖ ǖŋǼǖȝ ƟüɀÊǖā ŌÒÎǖā ϱǼȜ ·ǖǘÛǨŢ ǖǖǖǖŋşǖõ ǖȣòǕş ŌÒÎǖā ƟòǖǅǗ ɀĿş ӯ °37ş ӯ °27 ƙǣ ģøǖǖǵ ǦǅøǼǣ Ǧòǖǹ ÛǦǣØȝ ǢǖǤŋ БǗ ţøǖǖţā ǼǖȜ ǖţ ȷǖǪòǖÎŋ ģǣɀǖǖş БɀǨTā ·ôǖȝɟā ǦǖǖǖǖǖŽ ƙüɀȅ ȝŋ ƟøφǖǤŋɟā ŌÒÎǖā ȸŋ ǖǨǨę ģǣɀφ ȝŋ ǖǪŋşǖǑŋ 10 – 7 ƙǣ ȄǨǑǩş ģøşǼŋ ğǖÊǨǑǖ ·ǖǪǖǑǪɍ ȼǖǑǖ ƟøφǖǤŋɟā ŌÒÎǖā ğǖÊǨǑǖ ȸŋ Ōõ ǼǅɀǨ ·ʈȝǖφ ƙǺφ ȤȝǖȒŋ òǖÎȣǣ ǦüǖŢş ÛȤǖøǖǨɟā Ž ģǻɀǅɀȶǨǑ ǦòǖÎŋ ŌÒÎǖāş ÜţøǖǖţāŽ ȷǣɀȶǖǖ ȖǑɀ ǦÊǨǑǖş ƟøφǖǤŋɟā ŌÒÎǖā ·ǦǣǖǪǖş òǖţā Ž ȤǖøǖǨɟāş
·ƟȝǖǺǖǖ ǑǻÊǖş Ƀɀǰǖ ǰǨÊφ Ž ǻɀǅɀŋ ȖǑɀ ƟøφǖǤŋɟā

ȤǨǪƸş ǖɍşǖÛǪŋ ȷɀǑǖ ƟøǪǖş ÛȖǑɀ ƟøφǖǤŋɟā ŌÒÎǖǣ *ǦǨȶõɀÎǖ* ţɀφ ȤǖøǖǨ ǼǅɀǨ ģǣɀǖǖ ǖǼǅ ǦòǖÎŋ ģǣɀǖǖ ·òɀüǗ şǗ ǖǪŋşǖǑŋ 25 БǗ ǖǪŋşǖǑŋ 15 ȸŋ ȼȶǅɀǵ Ž ǖǨǰõ ·ǦǨòǖǑǖ ǦǖǖǖǖǖŽ ǦǦǨÎǪŋ ȷɀǑǨ ǖŋ ǖǦǖǖȡş ÛǦǑǨęǻş ǦǨǖɀü ǦǣǼǖǑǖ ӯǖǼęɟā ȷǗ ɍǗ *ÛǦǖǨǅɀǼǖā*
ȤǖøǖǨɟā ǼĿǖÎǨ ·ǯɀȶǪŋ øǖǼǅ ǖTş ǨǨęȝõǗ ǖǨǖǑǖ *ÛǦǖǨǅɀǼǖā* ğǖÊǨǑǖ ǦòǖÎŋ ğǖÊǨǑǖ
·ǖǖŋ ǦǣǖǪǖş òǖţā Ž ÌǨǖǖ ǖƵƳõş Ƀɀǰǖ ǰǨÊφ Ž ğǖÊǨǑǖş

ȸŋ ȄǨǑǨ ȷǗ ȸǑƸş ÛğǖĿǖθɍā Ōõ Ž ǼǪǪ ţşǖɀ ǖT *mandrillaris* *ǦǪɀŋɍǖǖ ȤǖøǖǨ*
·ǦǨüɀȅ òǖǑȉǗ ǼǅɀǨ ɍ ·ǦǖÂõǖŋ ǦǣɀφȝŋÛǖφǖǵǗ ȷǖǣɀφ ǖT ȷɀǑǖ ǼęǗ ·ǖǖǪŋşǖǑŋ 60 – 15
ȸŋ ǦÊǨǑǖ òɀü ȷɀǑǖ Ǽęş ÛǵǻǖǖŋģǣɀφǖȒǖǗ ğǖÊǨǑǨǑ ·ǦɀφǖǪ ğǖȝǖǖ ǖT ǦǣǼǖǑǖ ӯǖǼęɟā
Ž ğǖÊǨǑǖş ȤǖøǖǨɟā ȸŋ Ōõ ǼǅɀǨ Ǽęş ·ǯɀȶǪŋ ƟǅøǖȴāøǖǼƨǖşÛǖǖǪŋşǖǑŋ 30 – 15
.*Balamuthia* *ǦǪɀŋɍǖǖ* ƟǶǤÛǖ ţǻɀǪÊţā ȸȝ ŌǨǑǖ ȣǖǶǖ ·Ƀɀǰǖ ǰǨÊφ

ğɍǖǵ ǨǨǅɀȅ ·ƁǖǶǖ Ōõ Ž ģǻɀǅɀŋ ǦÎǖǶţā ğÅΣā ǦǤŋɟā ȷǗ şǼǤǖ ·Žǖǖȣƨā ţǻɀǪǖ
ǖǣşøşǕş ģǼǶǪţā ğǖǖɍɀǖş ŌǖǖǖǑǖş ǖǖǖǖǪȅǗ ǖǨǨɀ ǖŋ ǖǨȒǶǣ ȸȝ ǖǼǅ ģǼǨǶǣ ȸõǖŋǗ Ž ǦǖǖÂȅ
.(Strickland, 1991) ǖǤŋǖǖş ǼǖTǖş

ȷǖǑǖ ȸŋ ğǖǖǪÊǖ Ž ɍǗ ǦÎǖǶţā ğÅΣā ǦǤŋɟǖǣ ʔşāǼǶā ȣǖǶǩ Ɓ ·ȷǖÊφqā Ž ϱşǼΣā
ǖǖǶÊǖş ȟǖŋǼǖ āǖǪǖ ȸŋ ǦǨǅÊŋ ǦǖǵǗ 179 õǖǖ ȷǖõ 1996 ӯǖȝ òɀǨǖş ÛȖǑɀ Ɵȓǖţā
*ƟøǦŋɟā ȟǖŋǼǖ āǖǪǖ* ȸŋ ğɍǖǵ 103ş *N. fowleri* *ǦǅǖǅǼǖ ǦǖǨǅɀǼǖā* ȸȝ ʈǅǖǖā
Ɵŋøɀǖ ƟøǦŋɟā ȟǖŋǼǖ āǖǪǖ ȸŋ ǦǖǵǗ 63ş *ǦǨȶõɀÎǖ* ȸȝ ǦƤǖǖā *ƟøǦǦΣā Ɵŋøɀā*
.(Martiínez and visresvara, 1997) *mandrillaris* *ǦǪɀŋɍǖǖ* ȸȝ ʈǅǖǖā ƟøǦǦΣā

570 1993

(Benenson, 1995) Keratis

(Van der Lugt and Van der Merve, 1990)

(Pearce *et al.*, 1985)

invasive

(NiederKorn *et al.*, 1992)

(García and BrucKner, 1997)

7 – 3

4 – 3

4 – 3

.(Tyndall and Domingue, 1982) *Legionella*

1993

(Denney *et al.,* 1997)

Simpson *et al.,* 1982; Pearce *et al.,*)

. (1985, NiederKorn *et al.,* 1992; Visvesvara *et al.,* 1993

100 (1993)

.%31.5 %7.6

[illegible] 24 [illegible] %82 [illegible] 8 [illegible] °4 [illegible]

[illegible] (Anzil *et al.*, 1991) [illegible]

[illegible]

[illegible]

·ÀǹÛ БÛ Æĝäş ȸɳ ÀȚŸÕÀǩ ȖøǪöä

## ǛøШƐþøDŽǁƐ


Anzil, A.P., C. Rao, M.A. Wrzolek, G.S. Visvesvara, J.H. Sher, P.B. Kozlowski. Amebic meningoencephalitis in a patient with AIDS caused by a newly recognized opportunistic pathogen, *Leptomyxid ameba*. *Arch Pathol Lab Med* 115:21–25, 1991.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 16th ed. An official report of the American Public Health Association. Washington, D.C.: APHA; 1995.

Denney, C.F., V.J. Iragui, L.D. Uber-Zak, *et al*. Amebic meningoencephalitis caused by *Balamuthia mandrillaris*: Case report and review. *Clin Infect Dis* 25:1354–1358, 1997.

Garcia, L.S., Bruckner, D.A. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Martinez, A.J., G.S. Visvesvara. Free-living, amphizoic and opportunistic amebas. *Brain Pathol* 7:583–598, 1997.

Muñoz, V., H. Reyes, B. Astorga L., E. Rugiero P., S. Del Río, P. Tocbe. Amebas de vida libre en hábitats de aguas dulces de Chile. *Parasitol Día* 17:147–152, 1993.

Niederkorn, J.Y., J.E. Ubelaker, J.P. McCulley, *et al*. Susceptibility of corneas from various animal species to *in vitro* binding and invasion by *Acanthamoeba castellanii*. *Invest Ophthalmol Vis Sci* 33:104–112, 1992.

Pearce, J.R., H.S. Powell, F.W. Chandler, G.S. Visvesvara. Amebic meningoencephalitis caused by *Acanthamoeba castellani* in a dog. *J Am Vet Assoc* 187:951–952, 1985.

Simpson, C.P., E. Willaert, F.C. Neal, A.R. Stevens, M.D. Young. Experimental *Naegleria fowleri* meningoencephalitis in sheep: Light and electron microscopic studies. *Am J Vet Res* 43:154–157, 1982.

Strickland, G.T., ed. *Hunter's Tropical Medicine*, 7th ed. Philadelphia: Saunders; 1991.

Tyndall, R.L., E.L. Domingue. Cocultivacion of *Legionella pneumophila* and free-living amoebae. *Appl Environ Microbiol* 44:954–959, 1982.

Van der Lugt, J.J., H.E. Van der Merwe. Amoebic meningoencephalitis in a sheep. *J S Afr Vet Assoc* 61:33–36, 1990.

Visvesvara, G.S., F.L. Schuster, A.J. Martinez. *Balamuthia mandrillaris*, N. G., N. Sp., agent of amebic meningoencephalitis in humans and other animals. *J Eukaryot Microbiol* 40:504–514, 1993.


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# DŽƑƨȸǕƐ þĭȜ lƑDŽɊǁƐ Ĭƺ ƑĭþúDŽǁƐ
# MALARIA IN NONHUMAN PRIMATES

## ƕĭɋþȶǁƐ lþƐǋȚȶDŽǁƐ DŽȲ ƕDŽШƑǁƐ ƑĭþúDŽǁƐ ICD10 B53.1
## ICD-10 B53.1 Malaria due to simian plasmodia

·plaudism ãÀÊÀöä ȯÀæş Ûã ÀÊÀöä ÀøŸɳ ˙ğÀʐåäÀţä

[illegible] Phylum Apicomplexa [illegible] *Plasmodium* [illegible] *P.ovale* [illegible] *P.maluriae* [illegible] *P. falciparum* [illegible] *P.vivax* [illegible] Pondeidea [illegible] simians [illegible] Hylobatidae [illegible] (gibbons) [illegible] Cercopithecidae [illegible] Lemuridae [illegible] Lemuraes [illegible] Cebidae [illegible] (Collins and Aikawa, 1977)

[illegible] 2

[illegible] *elesi* [illegible] *Cyonomoly* [illegible] *Schewtzi* [illegible] *Knowplesi* [illegible] *inui* [illegible] *Simium* [illegible] *Aotus* [illegible] *Saimiri* [illegible]

[illegible] (Monophyletic) [illegible] 1998 [illegible] 10 [illegible] b [illegible] *Reinchenowi* [illegible] polyphyletic [illegible]

ÛCǼÕöä ƁÅǏHöä ÈĿφÅÊφ ğäøζÔǪɳ Ʒɳ ĞŸÔöä ĞÕĿǫş ÅŢÅÒö ÛĞÅŸǪƯ Ğ3ζɫf *ĞÛĪÎÅöä gøζÔǪʈä*
ʅdø ÛĞŸÔÅÅɳ Ğ3ζɫf *ĞĿöÅǯζöä gøζÔǪʈäş ĞÅζȒĿĞöä gøζÔǪʈä* ÕÒÎǩ ·*ĞÅåÅÕöä gøζÔǪʈä* ĞòÅǹ
·ğÅɳǼÕʈä ɃǼȞǩ ɄøǪöä *gøζÔǪʈä* ʈäζφŨ :2 òşǼɛä

| ğÅÊÒÅöä | ĞÅøşǼöä | ŽäÅ8ɛä ʔǼʈä | Ƀζǯöä | ʈζÅöä |
|---|---|---|---|---|
| åǼŢ Ƙɖ | 3ǽø | ĞĿæζÅɛäş ʔÛèζöä ÅÒÅÅɳŨ | ǼÅǼɛä ƁÅǏHöä ÈĿφÅÊφ | *ĞŸÅäÆöä gøζÔǪʈä* |
| ǼDŽζÅɟ | ǬŸǭ | ÅÅÂĿöÅɳ | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *ĞĿÅǩζÒöä gøζÔǪʈä* |
| gåζDŽζɳ | ǬŸǭ | ÅĿèŨ àÅɪ āζÅDŽ | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *Ğǵ ǵşåÅÕöä gøζÔǪʈä* |
| åǼŢ Ƙɖ | ǬŸǭ | ÅÅÂĿöÅɳ | ɉζĞɛä | *ĞÅÂĿŸÅqä gøζÔǪʈä* |
| ǼDŽζÅɟ | ǬŸǭ | ĞÅøäǼʈä ĘùÅÅʈä | ɉÅÊφqä | *ĞĿŸDžÅʈä gøζÔǪʈä* |
| gåζDŽζɳ | ǬŸǭ | ÅÅÂĿöÅɳ | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *ĞĿŸÕΣä gøζÔǪʈä* |
| ǼDŽζÅɟ | ǬŸǭ | ʔÛèζöä ÅĿÕÅÅζŨ | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *ĞÅøǼÅɛä gøζÔǪʈä* |
| ǼDŽζÅɟ | ǬŸǭ | ÅÅÂĿöÅɳ | ɉζĞɛä | *ĞĿǩÅǯζŸĿŢä gøζÔǪʈä* |
| ǼDŽζÅɟ | 3äø | ÅĿèŨ àÅɪ āζÅDŽş ǼÅŢä | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *ĞĿëÅĿÊÆöä gøζÔǪʈä* |
| ǼDŽζÅɟ | Ʉɳζ | ÅÅÂĿöÅɳ | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *ĞĿÊöζÅöä gøζÔǪʈä* |
| ǼDŽζÅ ɟ | 3äø | ĞÅøäǼʈä āÅęş ĞÅøäǼʈä ĘùÅÅʈä | ɉÅÊφqä | *ĞĿöÅǯζöä gøζÔǪʈä* |
| gåζDŽζɳ | ǬŸǭ | ÅĿÕÅÅζŨş ÅĿèŨ | ɉÅÊφqä | *ĞÅζȒĿĞöä gøζÔǪʈä* |
| ǼDŽζÅ ɟ | ǬŸǭ | ʔÛèζöä ÅĿÕÅÅζŨ | ɃÅφÅĞɫÎöä | *ĞĿζζÅĿƩÅöä gøζÔǪʈä* |
| gåζDŽζɳ | ǬŸǭ | ĞÅøäǼʈä ÅĿÕÅÅζŨ | ɃÅφÅĞɫÎöäş ŸÅøζ8öä | *ĞÅÂǪÅÎöä gøζÔǪʈä* |
| gåζDŽζɳ | ǬŸǭ | ÅÒφŸÅƘè | CǼÕöä ƁÅǏHöä ÈĿφÅÊφ | *ĞÅζȒĿĞöä ĞÅåÅÕöä gøζÔǪʈä* |
| åǼŢ Ƙɖ | ǬŸǭ | ÕÅäƎöä | ǼÅǼɛä ƁÅǏHöä ÈĿφÅÊφ | *ĞÅåÅÕöä gøζÔǪʈä* |
| gåζDŽζɳ | ǬŸǭ | ĞÅøäǼʈä āÅęş ĞÅøäǼʈä ĘùÅÅʈä | ɉÅÊφqä | *ĞÛĪÎÅöä gøζÔǪʈä* |

ʔŸ3 ǼəÅè ζȽ Åʈ ÅζŸǹş Û¢φŨ ζȽ ÿÅɫǪȽŸö Ƙǯʈä öɄÎöä ɉŨ ·ÅɫŢÅĿæ ÅǼDŽ gƘ8ö ĞęŸ3 åζDŽş ·Ƀζǯöäş gøζÔǪʈä ƙæ ĘζäÅǪöä òζüş ɄŸĿÅÛöä Ğ3ζζ ƙæ ĞĿÊÒ3 ĞęŸ3 ǼDŽζǩɟ Û3èäş àÅÛφ phylogenetic proximity (ğɟŸÊöä øζÛǩ) ǼǪɟä Ž ĞæäÅę ĞęŸ3 ɃŨ ǼDŽζǩ ɟ ¢φŨ Åɫõ ǫşǼǵş periodicity ĞÅøşǼöäş Ğ3ζÅöä Õǯɳ ɃøŸʈä ôÅɫŸö ĞòÅǹ ğäÅĿɯş ğÅĿŸĿÅÛŸö ɃŨ pathogenic ĞĿȓÅʈä ĞĿDŽζöζĿĞöä ğÅöÅÎǪöä ğåŨ ·ÅÕæÅè Åõæ Åư ʅɖÅöä ʔŸ3ş ·ğÅÊÒÅöä *gøζÔǪʈä* ʈäζφɟ ĞŸȒÅɳ ǯæÅɫÅõ ɉÅÊφqä Ƙɖ ğÅɳǼÕʈä ğäøζÔǪɳ ȸɳ ĞÅĿȞɳ ʈäζφŨ ÿäǼÅǪèä

[illegible] Simiovala [illegible] Field [illegible] Coatney [illegible] 1988 [illegible] Reichenowi [illegible] Anopleles [illegible] merozoites [illegible] 5 [illegible] hypnozoites [illegible] Cogswall,) [illegible] replication [illegible] (2 [illegible]) (1992 [illegible] sporozoites [illegible]) merogony ([illegible]) [illegible] (schizogony [illegible] vacuole [illegible] hemozine [illegible] mitosis [illegible] (Shizont [illegible]) meront [illegible]

[illegible] 24 [illegible] 72 [illegible] 48 [illegible] quotidian [illegible] (2 [illegible]) [illegible] quartan [illegible] tertian [illegible] macrogametocytes [illegible] microgametocytes [illegible] *Anopheles* [illegible] gametogony [illegible] gamet [illegible] microgametes [illegible] macrogmetes [illegible] ookinete [illegible] zygote [illegible] oocyst [illegible] sporozoites [illegible] hemocele [illegible] sporogony [illegible]

[illegible] (1998) [illegible] (2 [illegible]) [illegible]

[illegible] 1970 [illegible] %90 [illegible] (de Arruda *et al*., 1989) %0.05 [illegible] *Darlingi* [illegible]

[illegible] passage [illegible] 170 [illegible] (Collins and Aikawa, 1977) [illegible] (Collins and Aikawa, 1977) [illegible] (1992) [illegible] (Flynn, 1973) [illegible]

[illegible] %15 [illegible] Cebidae [illegible] *Ateles* [illegible] *Alouatta* [illegible] howler [illegible] *Cebus* [illegible] capuchin [illegible]

*Brachyteles*) (*Aloutta Fusca*)

%18 %35 %10 .(*arachnoids*

Cebidae

(Deane, 1992)

.relapse

.(2

gonderi .mandrill

Petersi georgese

*Cerocebus*

(*Macaca mulatto* .(Poirriez *et al*., 1995)

*Fragile* *Coatneyi*

Aikawa *et al*., 1992; Fujioka *et al*.,)

Saxena *et al*.,) .(1994

[illegible] *Saimiri* [illegible] (1993 .(Millet *et al.*, 1994) [illegible]

[illegible] anopheline [illegible] *Anopheles* [illegible] *balabacensis* [illegible] .*Darlingi* [illegible] *neivai* [illegible] *Cruzi* [illegible] *Rodhaini* [illegible] *gambine* [illegible]

[illegible]

[illegible]

[illegible] repellents [illegible] chemoprophylaxis [illegible]

## UøШɛþøDžIIɛ

Aikawa, M., A. Brown, C.D. Smith, *et al.* A primate model for human cerebral malaria: *Plasmodium coatneyi*-infected rhesus monkeys. *Am J Trop Med Hyg* 46:391–397, 1992.

Bruce-Chwatt, L.J. Malaria zoonosis in relation to malaria eradication. *Trop Geogr Med* 20:50–87, 1968.

Coatney, G.R. Simian malarias in man: Facts, implications, and predictions. *Am J Trop Med Hyg* 17:147–155, 1968.

Coatney, G.R. The simian malarias: Zoonoses, anthroponoses, or both? *Am J Trop Med Hyg* 20:795–803, 1971.

Cogswell, F.B. The hypnozoite and relapse in primate malaria. *Clin Microbiol Rev* 5:26–35, 1992.

Collins, W.E., M. Aikawa. Plasmodia of nonhuman primates. *In*: Kreier, J.P., ed. Vol. 3: *Parasitic Protozoa*. New York: Academic Press; 1977.

Deane, L.M. Epidemiology of simian malaria in the American continent. *In*: *First Inter-American Conference on Conservation and Utilization of American Nonhuman Primates in Biomedical Research*. Washington, D.C.: Pan American Health Organization; 1977. (Scientific Publication 317).

Deane, L.M. Simian malaria in Brazil. *Mem Inst Oswaldo Cruz* 87(Suppl 3):1–20, 1992.

Deane, L.M., M.P. Deane, J. Ferreira Neto. Studies on transmission of simian malaria and on a natural infection of man with *Plasmodium simium* in Brazil. *Bull World Health Organ* 35:805–808, 1966.

de Arruda, M., E.H. Nardin, R.S. Nussenzweig, A.H. Cochrane. Sero-epidemiological studies of malaria in Indian tribes of the Amazon Basin of Brazil. *Am J Trop Med Hyg* 41:379–385, 1989.

Escalante, A.A., D.E. Freeland, W.E. Collins, A.A. Lal. The evolution of primate malaria parasites based on the gene encoding cytochrome *b* from the linear mitochondial genome. *Proc Natl Acad Sci USA* 95:8124–8129, 1998.

Flynn, R.J. *Parasites of Laboratory Animals*. Ames: Iowa State University Press; 1973.

Fujioka, H., P. Millet, Y. Maeno, *et al.* A nonhuman primate model for human cerebral malaria: Rhesus monkeys experimentally infected with *Plasmodium fragile*. *Exp Parasitol* 78:371–376, 1994.

Garnham, P.C. Recent research on malaria in mammals excluding man. *Adv Parasit* 11:603–630, 1973.

Lal, A.A., V.F. de la Cruz, W.E. Collins, G.H. Campbell, P.M. Procell, T.F. McCutchan. Circumsporozoite protein gene from *Plasmodium brasilianum*. Animal reservoirs for human malaria parasites? *J Biol Chem* 263:5495–5498, 1988.

Millet, P., C. Nelson, G.G. Galland, *et al.* *Plasmodium ovale*: Observations on the parasite development in *Saimiri* monkey hepatocytes in vivo and in vitro in contrast with its inability to induce parasitemia. *Exp Parasitol* 78:394–399, 1994.

Poirriez, J., E. Dei-Cas, L. Dujardin, I. Landau. The blood-stages of *Plasmodium georgesi*, *P. gonderi* and *P. petersi*: Course of untreated infection in their natural hosts and additional morphological distinctive features. *Parasitology* 111:547–554, 1995.

Ruch, T.C. *Diseases of Laboratory Primates*. Philadelphia: Saunders; 1959.

Saxena, N., V.C. Pandey, P.N. Saxena, S. Upadhyay. Hydrolytic enzymes of rhesus placenta

during *Plasmodium cynomolgi* infection: Ultrastructural and biochemical studies. *Indian J Exp Biol* 31:54–56, 1993.

Warren, M. Simian and anthropoid malarias—their role in human disease. *Lab Anim Care* 20:368–376, 1970.

World Health Organization (WHO). *Parasitology of Malaria. Report of a WHO Scientific Group*. Geneva: WHO; 1969. (Technical Report Series 433).

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

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## MICROSPORIDIOSIS ƵƐǋǦŬƐ l ƑĭŇǰƥǎÔŽ ƅƐơ

njƥƟɋċ ħĭYŇǰǽ ħĭllƐŇǰċ f ƐƥDžċ ICD-10 B60.8

**ICD-10 B60.8 Other specified protozoal diseases**

ȡŋ ȾøφǭƐǵ Ƃäşǖ ȡȝ ǦPÀφ ǦəøÀù ǦÀÀÎǟ ʔşÆȝ ȟäǭǟɟä ğÀşÀÖŋ öäá ⁚ğÀƐǦÊöä ğÀøÀÕÀöä ɃÆĦƘ ÀǦÀÕƘ ţǭφ 700 áǭDZş ǈǆøş ǕMicrospora ȟäǭǟɟä ğÀÕƐęá ǦŸƐÔǭ *Enterocyto-* ⁚ȾĿ ȷÀÊφŘö ğÀƐŸƐÀÛõ ȷǿä ʔøǪǵ ȣÀĤǪÊʧä ţǭÀöä ȷǖ ƂǕ ğÀøÀÕǭŸöäş ǵÂDZǭǂǟ ÀÖäÀè) ǕEncephalitozoon intestinalis ǦÀǭȞʧä ȟÀŋÆöä ǦÀÌäøş Ǖzoon bieneusi ǦƐφøɟä ȟÀŋÆöä ǦÀÌäøş Ǖhellem ǦȾŸƐŢä ȟÀŋÆöä ǦÀÌäøş Ǖ(Septata intestinalis ǦÀǭȞʧä ǕPleistophoraş ǕNosema ǦȾÕÊʧä âÀÀDZǕ ȡŋ ţäǭφǕ ȐĦäş Ǖcuniculi *Enterocytozoon* ÆǦÊƘ .*Vittaforma* (Scaglia *et al*., 1994)ş Ǖ*Trachipleistophora*ş

ʔşäÆȝ *Encephalitozoon* ȟÀŋÆöä ǦÀÌäø ÆǦÊƘ Æę ƙǵ Ž ⁚ÀǦÀÕƘ ÀÀÔǵ ǦÀǭȞŋ ʔşäÆȝ Ǖ*Pleistophora*ş Ǖ*Nosema* ǦȾÕÊʧä âÀÀDZǕ ⁚ǦÀŸǪƲ öÀŘȝǕ ƂǕ ÀÎǪÀƘ Æę ǦƐȝǭȾf şǕ ǦÀǭȞŋ Field *et al*.,) öÀĦŋɟä ÆƐÔƘ ɍş ȷÀÊφqä Ž ǵøáÀφ *Vittaforma*ş Ǖ*Trachipleistophora*ş .*Enterocytozoon bieneusi* øǟ 1985 ȳÀȝ ǨφÀõ ǦǭşÀĦŋ ǦÀÀÎǟ ʔşÆȝ ȯşǕ .(1996 ǦÕƐęÆöä ʔøÀǦöä ÀƐDZǭöǭǭøǭŋ ʔŸȝ ǵáÀȝ ÆȾǪĦÀş ǕǵƎǹ âÀÀDZɟäş ţäǭφɟä ĘÀÀÀƘ ÆŸÛǪÀ ȧşÀǭ ğäǟ ğäáÀÀǪÊŋ áǭDZş ʔŸȝ ğÀǦφǕ ÆDZǭÀ ⁚ÀφÆöä ÕÊŸÊƘ şǕ ɃÆŘǪÊʧä ÆƐõÀǪöäş ǾøĿ ǨÕǭäÀƘ äæǕ ÆĦǟ ȣÀĦÀ ɼ ȡÒö ⁚Ôęɟä ʔŸȝ *Enterocytozoon bieneusi* ȝŋ ǦƐÆDZ âÀÀDZǕ ȾȾǪÀƘ .(Rinder *et al*., 1997) ǦƐəÀǟǭöä şǕ ǦÀÀÀÊöä ȣşÀŢöä Ž ȧşÀǭ ȝŋ ȧşÀÀöä

Apicomplexa [illegible] (Esporozoa [illegible]) [illegible] .(Goodgame, 1996) [illegible] microsporidia [illegible] (merogony [illegible]) [illegible] (sporogony [illegible] 3 [illegible] 1 [illegible] extrusion [illegible] sporoplasm [illegible] filament [illegible] polaroplast [illegible]

[illegible] .(CDC, 2003) [illegible]

[illegible] 1994 [illegible] (Rabedonirina *et al.*, 1996) [illegible] 400 [illegible] 10 [illegible] *Enterocytozoon bieneusi* [illegible] %50 [illegible] %12 [illegible] .(Vglino *et al.*, 1996) [illegible]

%44 Ž ʔşÆĤöä 1996 ÿÄ3 ¢ęÁźøş Бźõ ÆDZş ·Ğ3ÄÅţä Ƀäźĥţä ɂȑÄţä ÆÄ3 ÅÅŋÂŋ ÏɍÄŦèǕ Ž ·ȯÄŦèǕ ȷşå äÆÄqÄæ ƙæÄÔţä ȸŋ ǛÖź %2.3 Ž ȸȮöş ǕȯÄŦèǕ 3ŋ äÆÄqÄæ ƙæÄÔţä ȸŋ 47 ȸŋ %4.3ş ȯÄŦèǕ 3ŋ äÆÄqÄæ ÅæÄÔŋ 50 ȸŋ %36 Ž ĥäźæɉä ğÅÅşÄÖŋ ĶźÅĤǪèä ·ÅÆφÄţǕ ǕȸŋÂŋ ȯÄŦèüæ ƙæÄÔţä ȸŋ %66 Ž ğÅÆŸÆÄÛöä ĶÄÎǪõä ·ȯÄŦèǕ ȷşå äÆÄqÄæ ÅæÄÔŋ %18 Ž *Enterocytozoon bieneusi* ÕŋÄĤöä ȷÄõ ·åÄğ ȯÄŦèüæ ƙæÄÔţä ȸŋ ǛÖź %5.9 Žş ·ÅÆφÄĞèǕ Ž .(Sobottka *et al.*, 1998) ƙÄǪä Ž ĞÁźĤţä ĥäźæɉä ĞÄÌäø ĶφÄõş ɂȑÄţä ȸŋ äźĤöä âşƘź ɄÆæÄƶqä ȯÄÄùɉä ȸŋ ǛÖź %1.2 Ž ʔşÆĤöä (1997) ¢ęÁźøş ɍÄȡşǕ Õæå ÆDZş ÄDzÆÄöä Ž ÄŋǕ .%13.9 ƙÆæÄƶqä ƙ8öÄĞöä ƙæ ĞÄźÄţä ĞĞÊÄöä ĶφÄõ ƙğ Ž ·ɃÄÎĞöä Ʉ3ÄÅţä äźĤöä âşƘÄö ĞĞÊÄöÄæ ÅÆæÄƶǕ ÏŸÄù 60 ȸŋ %7 Ž ʔşÆĤöä (1993) ¢ęÁźøş ɄDZÄǪÅÄæ ÆDZş ÆÕź ǕɃÄÎĞöä Ʉ3ÄÅţä äźĤöä âşƘÄö ĞĞÊÄöÄæ ÅÆĞŸè ÏŸÄù 990 ȸŋ %0.8 Žş ǕɃÄÎĞöä Ʉ3ÄÅţä Å8öÄæ 129 ȸŋ %10 Ž ʔşÆĤöä (1997) ¢ęÁźøş ȯźȡ ÆDZş ÆÕź ɃźæÄĞɽä Ž ÄŋǕ ·ÅÆȑäÄ3Ǖ ɍş 12ş Å8öÄæ 13 Ž ÄȽÆƶ Ɓ ÄƚõǕäÆÄqÄæ ƙæÄÔŋ ÏɍÄÄùǕ 106 Ž ÄȽÆƶ Ɓş äÆÄqÄæ ÅæÄÔŋ ·äÆÄqÄæ ƙæÄÔŋ Ƙȡ ÏŸÄù

ĞÄøÄÖÄöä ţäźφɉä ȸŋ ƘĞõ åÆ3 Ž ĥäźæɉä ğÅÅşÄÖŋ öäå ǫÆ3 ·ğÅφäźƐΣä Ž ǫşÆΣä ÕöØöş Ǖôøİ3 ¢źÄÎǪõÄź – ğÅÅøÄÖÄŸö ğåÄ3 ôÄư Ƙȡ ¢φǕ Äŋş – ȸȮöş ǕĞÄøÄÖÄöä Ƙȡş ǛÖź ĞÆφøɉä ĥÄŋÆöä ĞÄÌäø ȷǕ ĶĞǪǕ Æęş ·ĈÅĶäźǨ ȯźğ ÄŦÆŸ3 ȯźĤÄ ğÅÆæÄÔğǕ ÆDZźǨ ɍ *Enterocytozoon bieneusi* ğÆDZş ·Õõ ʔŸ3 .(Deplazed *et al.*, 1996) øÆÔţä ĞÆφäźƐğ ÄÕĞöäş Donkeys ƘƚΣä Ž ĞÁźĤţä ĥÄŋÆöä ĞÄÌäøş (Chalifoux *et al.*, 1998) õÄÖţä Ž ţäźφɉä ȻØȽ ȷǕ ÆÖǪ3ä ÕöØöş Ǖ(Bornay-Linares *et al.*, 1998) āŸÖöäş ÄÄäÄÄʅäş Ä3Äţä БǕ *Enterocytozoon bieneusi* ĶŸÕǪφä ·ÕöÆ БǕ ĞźÄȑǕ ·ÅȒÄǕ øÆÔţä ĞÆφäźƐğ ȷźÖĶ Æę ĥÄŋÆöä ĞÄÌäø ĶŸÕǪφäş (Kondova *et al.*, 1998) Ğ3ÄÅţä ğäźĥŋ ÄÄäÄÅǹ БǕ äÆÄqä 3ŋ õÄÖţä .(Snowden, 1998) ȷäÄÄÄöä БǕ *hellem* ĞƚŸŦä

ÕÆĞÊöä ÅφÄğǕş ǕĞÕÆęÆöä öÄĤŋɉä *Enterocytozoon bieneusi* ɃÆĤķ ·ȷÄÊφqä Ž ôÄţä ȯÄŦèqä ·ĞÄÄÄÊöä ğäÄȽÄŢǪöä ȸƚȒǪķ ·Ğ3ÄÅţä Ƀäźĥţä îÄÁÌɉä Ž ɃşäÄÄÔöä ɃÆĞÖöä

(8 – 2) microvilli *Trachipleistophora* *Vittaforma* (Dore *et al.*, 1996; Moss *et al.*, 1997) (Field *et al.*, 1996)

*Vittaforma* *Enterocytozoon bieneusi* (Dowd *et al.*, 1998) parenteral

[illegible] scrapings [illegible] .(Didier *et al.*, 1995) [illegible] .(Croppo *et al.*, 1998) [illegible] .(Gainzarian *et al.*, 1998) .(Croppo *et al.*, 1998) [illegible]

[illegible] (1998) [illegible]

[illegible]

Bornay-Llinares, F.J., A.J. da Silva, H. Moura, *et al.* Immunologic, microscopic, and molecular evidence of *Encephalitozoon intestinalis* (*Septata intestinalis*) infection in mammals other than humans. *J Infect Dis* 178:820–826, 1998.

Bretagne, S., F. Foulet, W. Alkassoum, J. Fleury-Feith, M. Develoux. Prévalence des spores d'*Enterocytozoon bieneusi* dans les selles de patients sidéens et d'enfants africains non infectés par le VIH. *Bull Soc Pathol Exot* 86:351–357, 1993.

Chalifoux, L.V., J. MacKey, A. Carville, *et al.* Ultrastructural morphology of *Enterocytozoon bieneusi* in biliary epithelium of rhesus macaques (*Macaca mulatta*). *Vet Pathol* 35:292–296, 1998.

Coyle, C.M., M. Wittner, D.P. Kotler, *et al.* Prevalence of microsporidiosis due to *Enterocytozoon bieneusi* and *Encephalitozoon (Septata) intestinalis* among patients with

AIDS-related diarrhea: Determination by polymerase chain reaction to the microsporidian small-subunit rRNA gene. *Clin Infect Dis* 23:1002–1006, 1996.

Croppo, G.P., G.P Croppo, H. Moura, *et al.* Ultrastructure, immunofluorescence, Western blot, and PCR analysis of eight isolates of *Encephalitozoon (Septata) intestinalis* established in culture from sputum and urine samples and duodenal aspirates of five patients with AIDS. *J Clin Microbiol* 36:1201–1208, 1998.

Del Aguila, C., R. Navajas, D. Gurbindo, *et al.* Microsporidiosis in HIV-positive children in Madrid (Spain). *J Eukaryot Microbiol* 44:84S–85S, 1997.

Deplazes, P., A. Mathis, R. Baumgartner, I. Tanner, R. Weber. Immunologic and molecular characteristics of *Encephalitozoon*-like microsporidia isolated from humans and rabbits indicate that *Encephalitozoon cuniculi* is a zoonotic parasite. *Clin Infect Dis* 22:557–559, 1996.

Didier, E.S., J.M. Orenstein, A. Aldras, D. Bertucci, L.B. Rogers, F.A. Janney. Comparison of three staining methods for detecting microsporidia in fluids. *J Clin Microbiol* 33:3138–3145, 1995.

Dore, G.J., D.J. Marriott, M.C. Hing, J.L. Harkness, A.S. Field. Disseminated microsporidiosis due to *Septata intestinalis* in nine patients infected with the human immunodeficiency virus: Response to therapy with albendazole. *Clin Infect Dis* 21:70–76, 1995.

Dowd, S.E., C.P. Gerba, I.L. Pepper. Confirmation of the human-pathogenic microsporidia *Enterocytozoon bieneusi, Encephalitozoon intestinalis*, and *Vittaforma corneae* in water. *Appl Environ Microbiol* 64:3332–3335, 1998.

Gainzarain, J.C., A. Canut, M. Lozano, *et al.* Detection of *Enterocytozoon bieneusi* in two human immunodeficiency virus-negative patients with chronic diarrhea by polymerase chain reaction in duodenal biopsy specimens and review. *Clin Infect Dis* 27:394–398, 1998.

Goodgame, R.W. Understanding intestinal spore-forming protozoa: *Cryptosporidia, Microsporidia, Isospora*, and *Cyclospora*. *Ann Internal Med* 124:429–441, 1996.

Field, A.S., D.J. Marriott, S.T. Milliken, *et al.* Myositis associated with a newly described microsporidian, *Trachipleistophora hominis*, in a patient with AIDS. *J Clin Microbiol* 34:2803–2811, 1996.

Kondova, I., K. Mansfield, M.A. Buckholt, *et al.* Transmission and serial propagation of *Enterocytozoon bieneusi* from humans and Rhesus macaques in gnotobiotic piglets. *Infect Immun* 66:5515–5519, 1998.

Levine, N.D. *Veterinary Protozoology.* Ames: Iowa State University Press; 1985.

Moss, R.B., L.M. Beaudet, B.M. Wenig, *et al.* *Microsporidium*-associated sinusitis. *Ear Nose Throat J* 76:95–101, 1997.

Rabodonirina, M., M. Bertocchi, I. Desportes-Livage, *et al.* *Enterocytozoon bieneusi* as a cause of chronic diarrhea in a heart-lung transplant recipient who was seronegative for human immunodeficiency virus. *Clin Infect Dis* 23:114–117, 1996.

Rinder, H., S. Katzwinkel-Wladarsch, T. Loscher. Evidence for the existence of genetically distinct strains of *Enterocytozoon bieneusi*. *Parasitol Res* 83:670–672, 1997.

Scaglia, M., L. Sacchi, S. Gatti, *et al.* Isolation and identification of *Encephalitozoon hellem* from an Italian AIDS patient with disseminated microsporidiosis. *APMIS* 102:817–827, 1994.

Snowden, K.F., E.S. Didier, J.M. Orenstein, J.A. Shadduck. Animal models of human microsporidial infections. *Lab Anim Sci* 48:589–592, 1998.

Sobottka, I., D.A. Schwartz, J. Schottelius, *et al.* Prevalence and clinical significance of intestinal microsporidiosis in human immunodeficiency virus-infected patients with and without diarrhea in Germany: A prospective coprodiagnostic study. *Clin Infect Dis* 26:475–480, 1998.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Parasites and Health: Microsporidiosis. [web page] Available at www.dpd.cdc.gov/dpdx/HTML/Microsporidiosis.htm. Accessed 31 January 2003.

van Gool, T., E. Luderhoff, K.J. Nathoo, C.F. Kiire, J. Dankert, P.R. Mason. High prevalence of *Enterocytozoon bieneusi* infections among HIV-positive individuals with persistent diarrhoea in Harare, Zimbabwe. *Trans R Soc Trop Med Hyg* 89:478–480, 1995.

Voglino, M.C., G. Donelli, P. Rossi, *et al.* Intestinal microsporidiosis in Italian individuals with AIDS. *Ital J Gastroenterol* 28:381–386, 1996.

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## SAROCYSTOSIS [illegible]

### [illegible] ICD-10 A07.8
### ICD-10 A07.8 Other specified protozoal intestinal diseases

.Sarcosporidiosis [illegible]

[illegible] *Sarcocystis* [illegible] .*Suihominis* [illegible] *Isospora* [illegible] .(el Naga *et al.*, 1998) [illegible] .1968 [illegible] *Lindemanni* [illegible]

[illegible] Apicomplexa [illegible] Markus,) [illegible]

.(1978

striated

(sarcocysts)

compartment

bradyzoites

sexuated

.sporogony

sporocysts

merogony

tachyzoites

merozoites

.(Rommel, 1989)

.(WHO, 1981) %10 %6

ĞĔüäÀÕƹÆÖä ƺĔö ĞÀøƺƮƤ Ž ĞÀÏĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä øÀÎǪäöÆĦŋ ɈÀõ ·öÀǯţä ÕĔĞè ʔŸĦƺ ЌĞĔǪöä Ž ĞÀÏĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä øÀÎǪä öÆĦŋ ɈÀõş ÛƙȢÖÀĞöä ƙä %10 ȸŋ ʔŸɜÜ ĞĔĞĦÎöä БÜ 0.06 ƙä ĞÀÀÂøÀʅä ĞÀÏĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä øÀÎǪä öÆĦŋ ȡƺşäÀǩ ƙǵ Ž Û%21.8 ÀƮŁŢĦŋ ÛɃÀÎĞöä ɄŸȒĦöä ĞĔŸȒĦöä ğÀÊĔÒǬţä öäá ȸŋ ĞöÀǵ 30 āøÀÕÀ Àŋ ȸɜ ŋĔŸĞǪöä Ź ·%7 ĞǯƨäÒĦƺ Ž %21 ÿÀɜ ŌÒÎä ĞĔŸȒĦöä ğÀÊĔÒǬţä öäá øÀÎǪä ɈÀõ ƙǵ Ž ·ÀÀÂĔöÀŋ Ž ·(Wong and Pathmanathan, 1992) ɄøÆƙşÀöä

Ž ĞĔŸȒĦöä ĞÊĔÒǬţä ţäƺǫÜ ȸɜ ĞƤÀÀöä ĞĔŸȒĦöä ʔşÆĦöä øÀÎǪä ·ğÀǫäƺĔΣä Ž ǫşÆΣä ţäƺǫÜ ĦȒÀÜ ĞĔÌÀţä Ƀşúǩ ·%90 ȸŋ ÀǯõÜ БÜ ĦǫÀĔǵÜ ŌÔÀ Æçş ÛĦÆȡƵ ɜÀǩÀŋ ÀÀäÀÀʅäş ĞĔÌÀţä ĞĔĞŸÒöä ĞÀÕĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä ƺŁ ŌÀÆĞöä ʅèɟä) *cruzi* ĞÀäşÀÖöä ĞĔŸȒĦöä ĞÊĔÒǬţä ĞÀÕĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä şÜ) *Hirsuta* ĞĔƺèKTä ĞĔŸȒĦöä ĞÊĔÒǬţäş (*bovicanis* ƙǵ Ž ·БäƺǪöä ʔŸɜ ÙÛÕöäş āŸÒöä ɄŁ ɈƺĔǝÀƮÀöä ÀŁÚÀƺǫÜ ɄøǪöäş (*bovifelis* ĞÀTä ĞĔĞŸÒöä ĞÀÀÂøÀʅä ĞĔŸȒĦöä ĞÊĔÒǬţä) *Mieschariana* ĞĔŸȒĦöä ĞÊĔÒǬţä ɜŋ ÀÀäÀÀʅä ĘƺäÀǪǩ ɄŁ ɈƺĔǝÀƮÀöä ÀŁÚÀƺǫÜ ɄøǪöäş Û*Poreifelis* ĞÀTä ĞÀÀÂøÀʅä ĞĔŸȒĦöä ĞÊĔÒǬţäş (*suicanis* ȸŋ ȼǫüƺ Ùèƺǫţä Ƀƺǯöä Ž ţäƺǫɟä ĘÀÀÀǩ ÆĦÔöä ȸŋ ȼǫÜ Àŋş ·БäƺǪöä ʔŸɜ ÙÛÕöäş āŸÒöä ğøÆç ·ɈÀÊǫȒö ĞÀÆĦţä ğÀĔŸĔÀÛöä ĘƺäƺǩɄøǪöä øÀÎǪŸö ĞÀƺÀţä ĞĞÊÀöä ɄŁ Àŋ ȢşÀĦţä Ƙɖ ɜŋ ĘƺäƺǪǩ ÀÀäÀÀʅäş ĞĔÌÀţä Ž ĞĔŸȒĦöä ğÀÊĔÒöä ƵÔǫ ɈÜ (1981) ĞĔţÀĦöä ĞĦƅÔöä ĞŁŢÀŋ ɈÜ ÆÀTä Ž ÆȡƵş ·ÕĦÀöÀäş ÛĞÀÏĞöä ĞÀÀÂøÀʅä ĞĔŸȒĦöä ĞÊĔÒǬţä şÜ ĞÀÏĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä ĞĔŸȒĦöä ĞÊĔÒǬţäş %47 ÀÀäÀÀʅä Ž ĞÀÏĞöä ĞÀÀÂøÀʅä ĞĔŸȒĦöä ĞÊĔÒǬţä øÀÎǪä ȼǫÜ ʔÀǹÜ ğÀèäøá ğÀƮşÜ ·(Saleque and Bhatia, 1991) %43 ɈÀõ *Miescheriana* ʔşÆɜ ʔŸɜ ŞƺÀƠ ɈÜş ÛĞÀÏĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä ɃÆĦÀǩ ɈÜ âƺĔÊÀÀöä ȄĔǫÀÊÀö ȸÒƹ ·Õçɟä ʔŸɜ ţƺĞèÜ ǵÆŋ ĞÀƺĦŋ

ʔøǫÀɜ ·ǵáÀɜ ôäÀɜüä āƺƅÔŋ Ƙɖ ɃƺĦţä ĞĔŸȒĦöä ğÀÊĔÒǬţä öäá ·ɈÀÊǫqä Ž ôÀţä ȸŋ ğÀɜÀè 6 − 3 ÆĦä öÀƮèÜş ɄøÀÛä ßÜş ɈÆǯɖ ȸŋ ɄøĞÀÀθ ŌÒÎä ɈşÆĦÀţä ɈƺɜƺÛǪţä ßɟä øÀÒǩ ·ĞÀÏĞöä ĞĔŸȒĦöä ĞÊĔÒǬţä ɃƺǪɜş ÛÆĦȡƵ ŌÒÎä ƿƺĞÛŋ Ƙɖ şÜ öƆ ÀÖä ʅΣ öşÀǩ

[illegible] 18 – 14 [illegible] .(Bunyaratvej *et al.*, 1982) [illegible]

[illegible] periarteritis [illegible]

[illegible] 29 [illegible] .(Barriga, 1997) [illegible] 500.000 – 50.000 [illegible] 12 [illegible]

[illegible]

[illegible] specifity [illegible]

[illegible] *Lindemanni* [illegible] omnivorous [illegible] (1991) [illegible] (1979) [illegible]

[illegible] 10 [illegible] 9 [illegible] 10.8 [illegible] 17 [illegible] 13 [illegible] 13.9 [illegible] 11.6 [illegible] (Frenkiel *et al*., 1979) [illegible] 10.8 [illegible] 10 [illegible] .Stieda [illegible]

[illegible] .(Gorman, 1984) [illegible] 9 – 4 [illegible] 20 – 6 [illegible]

[illegible] trichinoscopy [illegible] tryptic [illegible] [5] [illegible] .(WHO, 1981) [illegible] .(Habeeb *et al.*, 1966) [illegible]

[illegible]

[illegible]


Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Beaver, P.C., K. Gadgil, P. Morera. *Sarcocystis* in man: A review and report of five cases. *Am J Trop Med Hyg* 28:819–844, 1979.

Bunyaratvej, S., P. Bunyawongwiroj, P. Nitiyanant. Human intestinal sarcosporidiosis: Report of six cases. *Am J Trop Med Hyg* 31:36–41, 1982.

el Naga, I.F., A.Y. Negm, H.N. Awadalla. Preliminary identification of an intestinal coccidian parasite in man. *J Egypt Soc Parasitol* 28:807–814, 1998.

Frenkel, J.K., A.O. Heydorn, H. Mehlhorn, M. Rommel. Sarcocystinae: *Nomina dubia* and available names. *Z Parasitenkd* 58:115–139, 1979.

Gorman, T. Nuevos conceptos sobre sarcosporidiosis animal. *Monogr Med Vet* 6:5–23, 1984.

Habeeb, Y.S., M.A. Selim, M.S. Ali, L.A. Mahmoud, A.M. Abdel Hadi, A. Shafei. Serological diagnosis of extraintestinal sarcocystosis. *J Egypt Soc Parasitol* 26:393–400, 1996.

Kan, S.P., R. Pathmanathan. Review of sarcocystosis in Malaysia. *Southeast Asian J Trop Med Public Health* 22 Suppl:129–134, 1991.

Markus, M.B. Sarcocystis and sarcocystosis in domestic animals and man. *Adv Vet Sci Comp Med* 22:159–193, 1978.

Rommel, M. Recent advances in the knowledge of the biology of cyst-forming coccidia. *Angew Parasitol* 30:173–183, 1989.

Saleque, A., B.B. Bhatia. Prevalence of *Sarcocystis* in domestic pigs in India. *Vet Parasitol* 40:151–153, 1991.

Wong, K.T., R. Pathmanathan. High prevalence of human skeletal muscle sarcocystosis in south-east Asia. *Trans R Soc Trop Med Hyg* 86:631–632, 1992.

World Health Organization (WHO). *Intestinal Protozoan and Helminthic Infections. Report of a WHO Scientific Group.* Geneva: WHO, 1981. (Technical Report Series 666.)

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## TOXOPLASMOSIS [illegible]

**[illegible] P37.1 [illegible] ICD-10 B58**
**ICD-10 B58 Toxoplasmosis; PE7.1 Congenital toxoplasmosis**

[illegible] *Toxoplasma gondii* [illegible] .*Sarcocystis* [illegible] Phylum Apicomplexa [illegible] Felines [illegible] 200 [illegible]

[illegible] merogony [illegible] (oocyst) [illegible] gametogony [illegible] 12 [illegible] 10 [illegible] 5 – 1 [illegible] 11) [illegible] 8 [illegible] 6) [illegible] 13 [illegible] 8 – 6 [illegible] 2) [illegible] Stieda [illegible]

.(Dubeg and Beattic, 1988) [illegible]

[illegible] (2 × 6) [illegible] tachyzoites [illegible] .bradyzoites [illegible] Trophozoites [illegible] cystozoites [illegible]

[illegible] %50 [illegible] %40 [illegible] %16 [illegible] %80 [illegible] .(Barriga, 1997) [illegible]

ǦȒÀÅÀŋ (ȯÀÖQɸɍä ȧÀüş ʔşǼȞöä øǼÔŋ ÀȚɸä) ɄÊĿəø ŌȮÎæ ʔǼȞÀţä ĻHɊYöä ōƳȚQëä ǦDzĿQɸ ƙæ î ÀÁìɉä ǼÀʒ ÀȚQŧę БǛ ȯʐȍʐöäş ǼÀäÂQöÀæ ǛǼǦǨ ÀĿǼȞæş ğäʐÀè [5] ʔøQǵ ȯÀÀüɉä ǼÀʒ ɄÊĿəÀöä ǼǦÊöä ɉʐȮÀ ɄøQöä ȨüÀÀţä Ž ʔşǼȞöä ğɍǼȞŋ ɉʐȮǨ ·ÀŧȞöä ȡŋ 50 – 20 ϙǼʒ ·ĻȚÀǼÀǛ ŇĿèʐQö ĻȚŸĿŋ ǼǦÊæ ȯÀÀüɉä Ž ǦĿöÀʒ ǛǦǫʐŸţä ǦæÀQöä ţƳQæä ʐĿ ʔşǼȞŸö

·ţʐęʐöä ǦȒÀÅÀŋ ğÀʐQÊŋ ȼöş ɃåäÀʐ ŌȮÎæ ǥåÀʒ ɃÀÀÀÊöä ôÀţä

(Choi *et al.*, 1997) ʔǼȞÀţä ĻHɊYöä ōƳȚQëä БǛ ʔÀ8ǨĿɸÀĿǵǛ ǥK8ȍ ǦÀæşǛ ōÀÀĿ Ōõ ʔŸʒ

(1996) Mullens ÂøÀŸĿŋ ȼÀʒ ŋŸæǛ ɃǾöä öÀæʐöä āÀȍǛ ·(Mullens, 1996) ϙʐŸţä öÀţä şǛ

öäǼö ǦĿìÀʐ ǨæÀȍǛ [1979] ÿÀʒ Ž ŌDzÊţä Ǝõɉä öÀæʐöä ɉʐȮÀ ÀŋøşÌîÀÁìǛ [110] ȡŋ ÀǯõǛ

ǼŌQʒä ·ÀŧÀæ ȯÀȡåǛ Ž ğäøşÀÀŋ ɉʐŋʐŌÀ äʐɸÀõ ÀȮÊȞŋ Ž ÀÀǼÀDZ [98] ȡŋ [39] åÀΣä ğÀèʐŌţä

*ğÀÀȚī* äâƎæ Àǫʐŋ ɉʐȮÀ ɉǛ ȡȮɣ ɃǾöä ʔÀȮä ȡŋ öÀţä ōƳȚQëä ʐĿ ʔşǼȞöä øǼÔŋ ɉǛ

.(Benenson *et al.*, 1982) ǦÀƎöä

*ȼęÀʐøş* ʐÀĿöÀDZ âøå ·öÀȒʒɉä ÿʐȞü ŌǦŌQÊŋ Ž ʔşǼȞöä şǛ ôÀţä ϙǼʒ ɉǛ ȡȮŧţä ȡŋ

ǦǯÀǼǵ ʔşǼʒ ĻȚÀǼö [16] ɉǛ ǼDZşş äÀÊÀʐè Ž ţşøÂŋ ǼŸę Ƀşæ ĬȒÀÀŋ [12] (1996)

ʒŋ ǨŸŌɸä ʔşäǼʒ Ǩɸ̀Àõ ğɍÀΣä ȡŋ [%61] ÛǦÀÀÀè ğäÀĿÀȚǨ ʒŋ ĻȚÀŋ [5] Û*ğÀèʐŌţÀæ*

·Ōǫę ȡŋ ŌǦŌQÊţä ǼÀʒ Ǩɸ̀Àõ ɄøQöä ǦĿÀʅä ʔşǼȞöä ŌĿȞÀǨ ǼĿʒǛ [%7]ş ţşøÂţä ʐȒȞöä

Ž ·ǼĿöʐöäş ƙÀƨä ȡŋ Ÿõ Ž Ǽęäʐȟöä ǦŋÀǹş ǼǦÊæ î Àǹ ŌȮÎæ ǦŋÀĿ ǦĿŌŸʅä ʔşǼȞöä

ǦÀŸȮQöäş ɄŌŸʅä ğÀèʐŌţä öäå ʒŋ ǦÀè Ōõ ŌÀü [3000] Бäʐǵ ǼöʐÀ ÛǵǼȞɊQţä ğÀÀɍʐöä

[1] øæ ğÀèʐŌţä öäå ÀǩäʐǨ øǼę ·ɄȮÀÀŋǛ øɍşå ɉʐĿŸŋ [40 – 31] ƙæ ĻȚȑÀŋ ǦɘÀȞţ ǦÀʐÀÊöä

ĻÀĿDZ ǼDZş ·ĵÀşÀÀöä Ž ·[1.500] ŌȮö [1] ÀÊɸÀʐ Žş ǥǼȞɊQţä ğÀÀɍʐöä Ž ǥåɍş [4.000] ŌȮö

ŌŧΣä Ōǫę ʔşǼȞöÀæ ǨǦĿȍǛ ŌŋÀǵ ǥǛÀŋä [35.940] ȡŋ [%10.9] ɉǛ (1998) *ȼęÀʐøş* Jenum

öɍůĿ ȡŋ ÀŸŋÀǵ [23] ğǼöş ·ȯşɉä ϙʐŸQɉä Ž ÀȚǦŸȡǛ Şǵʐöş ŌŧΣä öÀÀɸǛ [%0.17]ş

Ûȯşɉä ϙʐŸQɉä öÀÀɸǛ ǦÀǼȞÀŋ ǨHɊǦȍǛ ǦÀDZɉä ȡŋ [%13] ÛȡÀǼȞÀŋ ÀɍÀÀüǛ ʔşǼȞöÀæ ğÀäÀȮţä

ʔşǼȞöä ǦĿɸÀÛÀÀæ Ž Ǧèäøå ğǼDZş ·ǬöÀǯöä Ž [%50]ş ɄøɸÀǯöä ǬŸǯöä Ž ĻȚÀŋ [%29]

ʔşǼȞöä ǦǦÊɸ ɉǛ øǼę ·ǦǯÀǼǵ ʔşǼȞöä ȼǾĿ ȡŋ [%0.4]ş ŌŋäʐΣä ȡŋ [%17.8 – %6.8] Ž

ǦŋÀʒ ȡŋ [%65.7] ʔşǼȞöä ǨæÀȍǛ ·ÀĿɸÀǦèǛ Ž ·ǥåɍş [10.000] ŌȮö ɉäǼöş [10] Бäʐǵ ǦĿŌŸʅä

.(Rodriguez *et al.*, 1996) %0.056 [illegible]
[illegible] 8.000 [illegible] 120 [illegible] 30 [illegible]
.(Gómez Marín *et al.*, 1997)

[illegible]
[illegible] 1.628 [illegible] (%24.5) 199 [illegible] (1998) [illegible]
[illegible] %97 [illegible]
[illegible] %84 [illegible] %13 [illegible]
[illegible] %13.1 [illegible]
HIV [illegible] %21.1 [illegible] HIV [illegible]
.(Chintana *et al.*, 1998)

[illegible] 200 [illegible]
[illegible]
[illegible]
(*Oncifelis geoffroyi, Felis colocolo, Felis eira*) [illegible] 23 [illegible]
[illegible] %37 [illegible]
[illegible] .(Pizzi *et al.*, 1978) %59 [illegible]
[illegible]
[illegible] %45 – %25 [illegible]
[illegible]
[illegible] (%25.3) [illegible] 237 [illegible] 60 [illegible]
%82 [illegible] (%23) [illegible] 55 [illegible]
[illegible] %60 [illegible] 6 [illegible]
[illegible]
[illegible] .(Ruiz and Frenkel, 1980) [illegible]

[illegible] %11 [illegible] %24.3 [illegible] .(Dubey 1973) [illegible] %50 [illegible] (parasitism [illegible]) [illegible] %13.2 – %3.5 [illegible] .(Dubey and Streitel, 1976) [illegible] 1988 [illegible] *Neosporo caninum* [illegible] .(Barriga, 1997) [illegible]

[illegible] distempar [illegible] .%50 [illegible]

[illegible] %90 [illegible] %4 [illegible]

[illegible] (1996) [illegible] 3 [illegible] %6 .(%42.4) [illegible] (%53.3) [illegible] (%80.9) [illegible] 11.5 [illegible] %87.3 [illegible]

[illegible] (WHO, 1979) [illegible] %13 %29 [illegible] %80 [illegible] (Jenum *et al.*, 1998) [illegible] (%30) [illegible]

[illegible] %80 [illegible]

[illegible] %46 [illegible] (Munday, 1975) 1968 – 1962 [illegible] 55 – 45 [illegible] 4 [illegible]

[illegible] .(Dubey, 1977)

[illegible] distemipar [illegible] 2 [illegible] 50 [illegible] %54 [illegible]

[illegible] %0.1 [illegible] %19.5 [illegible] %13 [illegible] 1.200 [illegible] %9.6 [illegible] %19.3 [illegible] %31.8 [illegible] (1997) [illegible] .(Chintana *et al.*, 1998) [illegible] 18 – 4 [illegible] 1.276 [illegible] %12.8 [illegible]

(%10.2) (%16.6) *Toxocora canis*

%2 %32 21 – 3

[illegible] 144 [illegible] (%92) [illegible] %72 [illegible] .(Riemann *et al.*, 1975) (%60) [illegible]

Riemann *et*) [illegible] (*al.*, 1975; Chiari *et al.*, 1984 [illegible]

[illegible]

[illegible]

[illegible] G [illegible] A [illegible] .(Rodríguez *et al.*, 1996) M [illegible]

[illegible] M [illegible] Kits [illegible] %93 [illegible] M [illegible] .(Wilson *et al.*, 1997) %90 [illegible] M [illegible] .(Beazley and Egerman, 1998) [illegible] DNA [illegible]

[illegible] E [illegible] E [illegible] (%76) [illegible] (%98) [illegible] .(Gross *et al.*, 1997) [illegible] G [illegible]

[illegible] IV [illegible]

[illegible] (flotation) [illegible] (oocysts) [illegible] 21 [illegible] 3 [illegible]

*Streptomyces* (*cinnamonensis* .(Frenkel and smith, 1982)

¹⁷ ¹⁰ ⁷ ⁴ ¹

.(Berger *et al*., 1995)

Frege *et*) (Dubey *et al*., 1998) (Washing *et al*., 1995) (*al*., 1993


Allain, J.P., C.R. Palmer, G. Pearson. Epidemiological study of latent and recent infection by *Toxoplasma gondii* in pregnant women from a regional population in the U.K. *J Infect Dis* 36:189–196, 1998.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Beazley, D.M., R.S. Egerman. Toxoplasmosis. *Semin Perinatol* 22:332–338, 1998.

Benenson, M.W., E.T. Takafuji, S.M. Lemon, R.L. Greenup, A.J. Sulzer. Oocyst-transmitted toxoplasmosis associated with ingestion of contaminated water. *N Engl J Med* 307:666–669, 1982.

Berger, R., S. Merkel, C. Rudin. Toxoplasmose und Schwangerschaft—Erkenntnisse aus einem Nabelschnurblut-Screening von 30,000 Neugeborenen. *Schweiz Med Wochenschr* 125:1168–1173, 1995.

Bossi, P., E. Caumes, P. Astagneau, *et al.* Caracteristiques epidemiologiques des toxoplasmoses cérébrales chez 399 patients infectés par le VIH suivis entre 1983 et 1994. *Rev Med Interne* 19:313–317, 1998.

Chiari, C. de A., D.P. Neves. Toxoplasmose adquirida através da ingestão de leite de cabra. *Mem Inst Osw Cruz* 79:337–340, 1984.

Chintana, T., Y. Sukthana, B. Bunyakai, A. Lekkla. *Toxoplasma gondii* antibody in pregnant women with and without HIV infection. *Southeast Asian J Trop Med Public Health* 29:383–386, 1998.

Choi, W.Y., H.W. Nam, N.H. Kwak, *et al.* Foodborne outbreaks of human toxoplasmosis. *J Infect Dis* 175:1280–1282, 1997.

Dubey, J.P. Feline toxoplasmosis and coccidiosis: A survey of domiciled and stray cats. *J Am Vet Med Assoc* 162:873–877, 1973.

Dubey, J.P., R.H. Streitel. Prevalence of *Toxoplasma* infection in cattle slaughtered at an Ohio abattoir. *J Am Vet Med Assoc* 169:1197–1199, 1976.

Dubey, J.P. *Toxoplasma, Hammondia, Besnoitia*, sarcocystis and other tissue cyst-forming coccidia of man and animals. *In*: Kreier, J.P., ed. Vol. 3: *Parasitic Protozoa*. New York: Academic Press; 1977.

Dubey, J.P., C.P. Beattie. *Toxoplasmosis of Animals and Man*. Boca Raton: CRC Press; 1988.

Dubey, J.P., J.K. Lunney, S.K. Shen, O.C. Kwoc. Immunity to toxoplasmosis in pigs fed irradiated *Toxoplasma gondii* oocysts. *J Parasitol* 84:749–752, 1998.

Ferrer, S., I. Fuentes, P. Domingo, *et al.* Toxoplasmosis encefálica en pacientes con infección por el virus de la inmunodeficiencia humana (VIH). Características clínico-radiológicas y terapéuticas en 63 pacientes. *Ann Med Interna* 13:4–8, 1996.

Frenkel, J.K., K.M. Hassanein, R.S. Hassanein, E. Brown, P. Thulliez, R. Quintero-Núñez. Transmission of *Toxoplasma gondii* in Panama City, Panama: A five-year prospective cohort study of children, cats, rodents, birds, and soil. *Am J Trop Med Hyg* 53:458–468, 1995.

Frenkel, J.K., D.D. Smith. Inhibitory effects of monesin on shedding of *Toxoplasma* oocysts by cats. *J Parasitol* 68:851–855, 1982.

Freyre, A., L. Choromanski, J.L. Fishback, I. Popiel. Immunization of cats with tissue cysts, bradyzoites, and tachyzoites of the T-263 strain of *Toxoplasma gondii*. *J Parasitol* 79:716–719, 1993.

Gallino, A., M. Maggiorini, W. Kiowski, *et al.* Toxoplasmosis in heart transplant recipients. *Eur J Clin Microbiol Infect Dis* 15:389–393, 1996.

Gómez-Marín, J.E., M.T. Montoya-de-Londoño, J.C. Castaño-Osorio. A maternal screening program for congenital toxoplasmosis in Quindio, Colombia and application of mathematical models to estimate incidences using age-stratified data. *Am J Trop Med Hyg* 57:180–186, 1997.

Gross, U., O. Keksel, M.L. Darde. Value of detecting immunoglobulin E antibodies for the serological diagnosis of *Toxoplasma gondii* infection. *Clin Diagn Lab Immunol* 4:247–251, 1997.

Jenum, P.A., B. Stray-Pedersen, K.K. Melby, *et al.* Incidence of *Toxoplasma gondii* infection in 35,940 pregnant women in Norway and pregnancy outcome for infected women. *J Clin Microbiol* 36:2900–2906, 1998.

Mullens, A. "I think we have a problem in Victoria": MDs respond quickly to toxoplasmosis outbreak in BC. *CMAJ* 154:1721–1724, 1996.

Munday, B.L. Prevalence of toxoplasmosis in Tasmanian meat animals. *Aust Vet J* 51:315–316, 1975.

Pizzi, H.L., C.M. Rico, O.A.M. Pessat. Hallazgo del ciclo ontogénico selvático del *Toxoplasma gondii* en félidos salvajes (*Oncifelis geofroyi, Felis colocolo y Felis eira*) de la Provincia de Córdoba. *Rev Milit Vet* (B Aires) 25:293–300, 1978.

Riemann, H.P., A.T. Smith, C. Stormont, *et al.* Equine toxoplasmosis: A survey for antibodies to *Toxoplasma gondii* in horses. *Am J Vet Res* 36:1797–1800, 1975.

Rodriguez, J.C., M.J. Alcantara, G. Royo. Toxoplasmosis en el embarazo: nuevas técnicas diagnósticas. *Enferm Infecc Microbiol Clin* 14:145–149, 1996.

Ruiz, A., J.K. Frenkel. *Toxoplasma gondii* in Costa Rican cats. *Am J Trop Med Hyg* 29:1150–1160, 1980.

Taylor, M.R., B. Lennon, C.V. Holland, M. Cafferkey. Community study of *Toxoplasma* antibodies in urban and rural schoolchildren aged 4 to 18 years. *Arch Dis Child* 77:406–410, 1997.

Wastling, J.M., D. Harkins, S. Maley, *et al.* Kinetics of the local and systemic antibody response to primary and secondary infection with S48 *Toxoplasma gondii* in sheep. *J Comp Pathol* 112:53–62, 1995.

Wilson, M., J.S. Remington, C. Clavet, G. Varney, C. Press, D. Ware. Evaluation of six commercial kits for detection of human immunoglobulin M antibodies to *Toxoplasma gondii*. The FDA Toxoplasmosis Ad Hoc Working Group. *J Clin Microbiol* 35:3112–3115, 1997.

World Health Organization (WHO). *Parasitic Zoonoses: Report of a WHO Expert Committee, with the Participation of FAO.* Geneva: WHO; 1979. (Technical Report Series 637.)

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## VISCERAL LEISHMANIASIS ăǸǈΘǁǁ ǈǇǏǆǅǈǂǁ ƅǝǫ

### ICD-10 B55.0

(ǻζèɟǟ ǒǟǼǟ) øǟàŸȮǒǟş ǒǟǻζÊǟ ʔȶΣǟş Dum-dum ȳşǼȵǟǻ ʔƥ ˙ğǕζǻǟǕţǟ ǈǺȒǩ ǕǦǣǕǕǟ ǦǟǕȞǕǟ ʔȶΣǟ ǕǼǇǕ̀ ǒǟǻ ǕɉǟşǻǕ ʔƥ ǕȸøǕȮǇè ǒǟǻ ǕKala-azar ·øǟàŸȮŸǒ ƃǕǫǟ ȸǼŸƨǟ ğǕǐǕȶ ΪǣŸǉǟ ǒǟǻ ǕȸζȶΣǟ ȸøǟǼţǟ ȯǕȞǕǟ

Ž ģǻǕʒ ǦèǕǭǕΪǟ ǦǐǕȶ ΪǣŸǟ ȸʒ ǈǅǕ ȸζΪΣǟ ğǕǐǕȶ ΪǣŸǉǟ ǒǟǻ ɉǕ ǈȡø ˙ğǕǤǤÊǟ Wilson) ƇǼǟ ƁǕǕǟ Ž *infantum* ǦǣǕǕǟ ǦǐǕȶ ΪǣŸǟ ş ǦǐǕζζşǼǟ ǦǐǕȶ ΪǣŸǟş ǕƙǫȮǕǕȵɟǟ ǦǐǕȶ ΪǣŸǟ ȸʒ ǦΘǕǫ ğǕǐǕȶ ΪǣŸǉǟ ǒǟǻ ȸȵ ğɼǕģ ȸʒ ȵǣǤǫǟ Ź ǼǕζ (and Streit, 1986

[illegible] (Barral *et al*., 1991) amazonensis [illegible] .(Giudice *et al*., 1996) [illegible] Cutaneous [illegible] vincersotropic [illegible] *major* [illegible] .(Lainson, 1982) [illegible]

[illegible] .(*donovani sensu lato*) [illegible]

[illegible] *Sensu lato* [illegible] .(Minodier, 1997) [illegible] phlebotomine [illegible] amostigotes [illegible] promastigote [illegible]

%90

.(WHO, 2003) 5

.(Baneth, 1998)

.(Gradoni *et al.*, 1996; Harrat *et al.*, 1996; Lagardere *et al.*, 1992)

50.000 1978

7.500

1985 1984 1982

1988

.(Dhiman and Sen, 1991)

600.000

1979 48 1960

[illegible] .(Guan, 1991) [illegible] 1990 [illegible] 1974 [illegible] 1969 [illegible] 5.000 [illegible] 3.000 [illegible] 500 [illegible] 1994 [illegible] 1984 [illegible] 280.000 [illegible] 100.000 [illegible] .(Seaman *et al.*, 1996) %57 – 38 [illegible] %44.6 [illegible] 1980 [illegible] 1971 [illegible] 3.78 [illegible] .Bahia [illegible] 243 [illegible] 1991 – 1989 [illegible] .(WHO, 1984) [illegible] %30 [illegible] .%14 [illegible] .(Cunha, 1995) [illegible] 460 [illegible] %6 [illegible] 1985 [illegible] .1991 [illegible] 2.511 [illegible]

[illegible] 5 [illegible] .(Marinkele, 1981) [illegible]

[illegible]

[illegible] 1962 – 1953 [illegible] 285.592 [illegible] %1.5 [illegible] 35.272 [illegible] %1.9 [illegible]

[illegible] (Deane and Deane, 1962) [illegible] 10.132 [illegible] 1962 [illegible] 1969 [illegible] %1.7 [illegible] (Sherlock and Almeida, 1970) [illegible] 1.681 [illegible] %25 [illegible] %23.5 [illegible] (Paianhos-silva, 1996) [illegible] *lycalopex vetulus* [illegible] %12 [illegible] %4 [illegible] 100 [illegible] 3 [illegible] 161 [illegible] 4 [illegible] 34 [illegible] 6 [illegible] 48 [illegible] 4 [illegible] %2.9 [illegible] (Hamidi, 1982) [illegible] %23.9 [illegible] %1 [illegible] 103 [illegible] %7 [illegible] %10 [illegible] 250 [illegible] (Gradoni, 1980) [illegible]

[illegible] 6 – 2 [illegible] 10 [illegible]

[illegible]

[illegible] (Zijlstra *et al.*, 1995) [illegible] %56 [illegible]

[illegible] Ribeiro de) [illegible] .(Jesus *et al.*, 1998

[illegible]

[illegible] .(Altes *et al.,* 1991; López-Vélez *et al.*, 1998) antimoniols .(Berenguer *et al.*, 1998) [illegible]

[illegible] 7 – 3 [illegible] Load [illegible] .(Barriga, 1997) [illegible] .(Hipólito *et al.,* 1965) [illegible] %30 [illegible] *Lycalopex vetulus* [illegible]

[illegible] .*Lutzomyia longipalpis* [illegible]

[illegible] (Paranhos-silva *et al.*, 1976) [illegible] .(Dietze *et al.*, 1997) [illegible] .(Ashford *et al.*, 1998) [illegible]

[illegible] semiarid [illegible]

[illegible] Amostigotes [illegible] 43 [illegible] %16.3 [illegible] 49 [illegible] %77.6 [illegible]

*Lycolopex* [illegible] *vetulus* [illegible] .(Garnham, 1971) [illegible]

Lainson *et al* 1969; Silveira *et*) (*Cerdocyon thous* [illegible] .(*al*., 1982

[illegible] Bhattochoryo and Ghosh,) [illegible] .(1983 [illegible] .(Manson and Apted, 1982) [illegible] anthropoph- [illegible] *Phlebotomus argentipes* [illegible] ilic [illegible] .(Manson and Apted, 1982) [illegible] *Acomys albigena*، *Arvicanthis niloticus* [illegible] .*Genetta sangalensis*، *Felis philippsi* [illegible] *Rattus rattus* [illegible] .*P. orientalis* [illegible]

[illegible]

[illegible] *Cerdocyon thous* [illegible] .(Lainson, 1983) [illegible]

[illegible] aspiratian [illegible] (%98) [illegible] %86 – %54 [illegible] .(WHO, 1984) [illegible] %64 [illegible] .(Osman *et al.*, 1997) [illegible]

[illegible] %96 [illegible] %99 [illegible]

.(Boelaet *et al.*, 1999)

.(Elassad *et al.*, 1994) %93.6 %93.4 IgG

%90.5 %100

%80 0.100 %91.4

.0.200 %96.6 %94.3

.(Mauricio *et al.*, 1995) reproducibility

2

E E

23 (1998) Atta

%96.7 %98.5

%98.9 %98.5

DDT

populotron

[illegible] .(Dietze *et al.*, 1997) [illegible] Ali and Afrin,) [illegible] liposomes [illegible] promastigote [illegible] .(1997 [illegible] .(Dye, 1996)

[illegible]


Ali, N., F. Afrin. Protection of mice against visceral leishmaniasis by immunization with promastigote antigen incorporated in liposomes. *J Parasitol* 83(1):70–75, 1997.

Altes, J., A. Salas, M. Riera, *et al.* Visceral leishmaniasis: Another HIV-associated opportunistic infection? Report of eight cases and review of the literature. *AIDS* 5(2):201–207, 1991.

Ashford, D.A., J.R. David, M. Freire, *et al.* Studies on control of visceral leishmaniasis: Impact of dog control on canine and human visceral leishmaniasis in Jacobina, Bahia, Brazil. *Am J Trop Med Hyg* 59(1):53–57, 1998.

Atta, A.M., D. Oliveira, J. Correa, M.L. Atta, R.P. Almeida, E.M. Carvalho. Anti-leishmanial IgE antibodies: A marker of active disease in visceral leishmaniasis. *Am J Trop Med Hyg* 59(3):426–430, 1998.

Baneth, G., G. Dank, E. Keren-Kornblatt, *et al.* Emergence of visceral leishmaniasis in central Israel. *Am J Trop Med Hyg* 59(5):722–725, 1998.

Barral, A., D. Pedral-Sampaio, G. Grimaldi Jr., *et al.* Leishmaniasis in Bahia, Brazil: Evidence that *Leishmania amazonensis* produces a wide spectrum of clinical disease. *Am J Trop Med Hyg* 44(5):536–546, 1991.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Berenguer, J., F. Gómez-Campdera, B. Padilla, *et al.* Visceral leishmaniasis (Kala-Azar) in transplant recipients: Case report and review. *Transplantation* 65(10):1401–1404, 1998.

Bhattacharya, A., T.N. Ghosh. A search for leishmania in vertebrates from kala-azar-affected areas of Bihar, India. *Trans R Soc Trop Med Hyg* 77(6):874–875, 1983.

Boelaert, M., S. El Safi, D. Jacquet, A. de Muynck, P. van der Stuyft, D. Le Ray. Operational validation of the direct agglutination test for diagnosis of visceral leishmaniasis. *Am J Trop Med Hyg* 60(1):129–134, 1999.

Cunha, S., M. Freire, C. Eulalio, *et al.* Visceral leishmaniasis in a new ecological niche near a major metropolitan area of Brazil. *Trans R Soc Trop Med Hyg* 89(2):155–158, 1995.

Deane, L.M., M.P. Deane. Visceral leishmaniasis in Brazil: Geographical distribution and transmission. *Rev Inst Med Trop S Paulo* 4:198–212, 1962.

del Giudice, P., P. Marty, J.P. Lacour, *et al.* Cutaneous leishmaniasis due to *Leishmania infantum*. Case reports and literature review. *Arch Dermatol* 134(2):193–198, 1998.

Dietze, R., G.B. Barros, L. Teixeira, *et al.* Effect of eliminating seropositive canines on the transmission of visceral leishmaniasis in Brazil. *Clin Infect Dis* 25(5):1240–1242, 1997.

Dhiman, R.C., A.B. Sen. Epidemiology of kala-azar in rural Bihar (India) using village as a component unit of study. *Indian J Med Res* 93:155–160, 1991.

Dye, C. The logic of visceral leishmaniasis control. *Am J Trop Med Hyg* 55(2):125–130, 1996.

Elassad, A.M., S.A. Younis, M. Siddig, J. Grayson, E. Petersen, H.W. Ghalib. The significance of blood levels of IgM, IgA, IgG and IgG subclasses in Sudanese visceral leishmaniasis patients. *Clin Exp Immunol* 95(2):294–299, 1994.

Garnham, P.C.C. American leishmaniasis. *Bull World Health Organ* 44:521–527, 1971.

Gradoni, L., E. Pozio, S. Bettini, M. Gramiccia. Leishmaniasis in Tuscany (Italy). III. The prevalence of canine leishmaniasis in two foci of Grosseto Province. *Trans R Soc Trop Med Hyg* 74(3):421–422, 1980.

Gradoni, L., R. Pizzuti, A. Scalone, *et al.* Recrudescence of visceral leishmaniasis unrelated to HIV infection in the Campania region of Italy. *Trans R Soc Trop Med Hyg* 90(3):234–235, 1996.

Guan, L.R. Current status of kala-azar and vector control in China. *Bull World Health Organ* 69(5):595–601, 1991.

Hamidi, A.N., A. Nadim, G.H. Edrissian, G. Tahvildar-Bidruni, E. Javadian. Visceral leishmaniasis of jackals and dogs in northern Iran. *Trans R Soc Trop Med Hyg* 76(6):756–757, 1982.

Harrat, Z., F. Pratlong, S. Belazzoug, *et al.* *Leishmania infantum* and *L. major* in Algeria. *Trans R Soc Trop Med Hyg* 90(6):625–629, 1996.

Hipólito, O., M.O. Freitas, J.B. Figuereido. *Doenças infeto-contagiosas dos animais domésticos*. 4th ed. São Paulo: Melhoramentos; 1965.

Lacerda, M.M. The Brazilian Leishmaniasis Control Program. *Mem Inst Oswaldo Cruz* 89(3):489–495, 1994.

Lagardere, B., B. Chevallier, R. Cheriet. Le kala azar. *Ann Pediatr (Paris)* 39(3):159–164, 1992.

Lainson, R. Leishmaniasis. *In:* Jacobs, L., P. Arámbulo, section eds. Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Lainson, R. The American leishmaniases: Some observations on their ecology and epidemiology. *Trans R Soc Trop Med Hyg* 77:569–596, 1983.

Lainson, R., J.J. Shaw, Z.C. Lins. Leishmaniasis in Brazil. IV. The fox *Cerdocyon thous* (L.) as a reservoir of *Leishmania donovani* in Para State, Brazil. *Trans R Soc Trop Med Hyg* 63(6):741–745, 1969.

López-Vélez, R., J.A. Pérez-Molina, A. Guerrero, *et al.* Clinicoepidemiologic characteristics, prognostic factors, and survival analysis of patients coinfected with human immunodeficiency virus and Leishmania in an area of Madrid, Spain. *Am J Trop Med Hyg* 58(4):436–443, 1998.

Manson, P., F.I.C. Apted. *Manson's Tropical Diseases*, 18th ed. London: Ballière Tindall; 1982.

Marinkele, C.J. La lutte contre les leishmanioses. *Bull World Health Organ* 59:189–203, 1981.

Mauricio, I., L. Campino, P. Abranches. Controle de qualidade da técnica de micro-ELISA aplicada ao diagnóstico da leishmaniose visceral humana e canina. *Acta Med Port* 8(11):607–611, 1995.

Mayrink, W., C. De A. Chiari, P.A. Magalhães, C.A. da Costa. Teste do latex no diagnóstico do calazar americano. *Rev Inst Med Trop S Paulo* 14(4):273–276, 1972.

Minodier, P., R. Piarroux, F. Gambarelli, C. Joblet, H. Dumon. Rapid identification of causative species in patients with Old World leishmaniasis. *J Clin Microbiol* 35(10): 2551–2555, 1997.

Osman, O.F., L. Oskam, E.E. Zijlstra, *et al.* Evaluation of PCR for diagnosis of visceral leishmaniasis. *J Clin Microbiol* 35(10):2454–2457, 1997.

Paranhos-Silva, M., L.A. Freitas, W.C. Santos, G. Grimaldi Jr., L.C. Pontes-de-Carvalho, A.J. Oliveira-dos-Santos. A cross-sectional serodiagnostic survey of canine leishmaniasis due to *Leishmania chagasi*. *Am J Trop Med Hyg* 55(1):39–44, 1996.

Ribeiro-de-Jesus, A., R.P. Almeida, H. Lessa, O. Bacellar, E.M. Carvalho. Cytokine profile and pathology in human leishmaniasis. *Braz J Med Biol Res* 31(1):143–148, 1998.

Seaman, J., A.J. Mercer, E. Sondorp. The epidemic of visceral leishmaniasis in western Upper Nile, southern Sudan: Course and impact from 1984 to 1994. *Int J Epidemiol* 25(4):862–871, 1996.

Senaldi, G., H. Xiao-su, D.C. Hoessli, C. Bordier. Serological diagnosis of visceral leishmaniasis by a dot-enzyme immunoassay for the detection of a *Leishmania donovani*-related circulating antigen. *J Immunol Methods* 193(1):9–15, 1996.

Sherlock, I.A., S.P. de Almeida. Notas sobre leishmaniose canina no Estado de Bahia. *Rev Bras Malariol Doencas Trop* 22(2):231–242, 1970.

Silveira, F.T., R. Lainson, J.J. Shaw, M.M. Povoa. Leishmaniasis in Brazil: XVIII. Further evidence incriminating the fox *Cerdocyon thous* (L.) as a reservoir of Amazonian visceral leishmaniasis. *Trans R Soc Trop Med Hyg* 76(6):830–832, 1982.

Wilson, M.E., J.A. Streit. Visceral leishmaniasis. *Gastroenterol Clin North Am* 25(3): 535–551, 1996.

World Health Organization (WHO). *The Leishmaniases. Report of a WHO Expert Committee*. Geneva: WHO; 1984. (Technical Report Series 701).

World Health Organization (WHO). The Leishmaniases and *Leishmania*/HIV Co-infections. May 2000. [web page] Available at http://www.who.int/inf-fs/en/fact116.html. Accessed January 2003.

Zijlstra, E.E., A.M. el-Hassan, A. Ismael. Endemic kala-azar in eastern Sudan: Post-kala-azar dermal leishmaniasis. *Am J Trop Med Hyg* 52(4):299–305, 1995.

## القسم الثانــي

## الدُّوادات (الأدواء الديدانية)

## 1. أدواء المَثْقوبات

## 2. أدواء الشُّراطيات

## 3. أدواء مُشَوَّكات الرأس

## وأدواء المَمْسودات

# 1. Trematodiases

## CERCARIAL DERMATITIS

**ICD-10 B65.3**

(Bather's dermatitis, Swimmer's dermatitis)

clam digger

cercariae

*Australobilharzia*

*Gigantobilharzia* *Bilharziella*

*Ornthobilharzia* *Microbilharzia*

*Trichobilharzia*

*Orientobilharzia* *Heterobilharzia*

*Schistosomatium* *Schitosoma*

Schistonomatidae

preadult stage

miracidium

(snail

*Nassarius* *Lymnaea* *Bulineus*

*Stagnicola* *Plnorbis* *Physa*

mollusk

sporocyst
redia
cercaria
infectivity
24
Metacercaria
tegument
tail
schistosomula
mate
28
(%36) 10
.(Visser *et al.*, 1995)

clam-diggers

[illegible] 11 [illegible] 58 [illegible] (Anon, 1992) [illegible] .(Kullavanijaya and Wongwaisayawan, 1993)

[illegible] (Linadblade, 1998) [illegible] 317 [illegible] 153 [illegible] 555 [illegible] .(Chamot *et al.*, 1998) [illegible]

[illegible] sensitization [illegible] 30 – 10 [illegible] 14 – 5 [illegible] 24 – 10 [illegible] 30 [illegible] (Baskin *et al.*, 1997) [illegible] E [illegible]

ƟøφÀĤΛş ƟĤÕã ĠÀü ÒÁÎõä ÆΛȝ ÀŢŢΛ ˙Ğȝ Àè 12 – 6 ÆĤãş ·ʔşÆĤõä ÆĤã ĞÕĿęá 90 – 30 ĠÀÛõä äØŁ òÆã ÀŢŢΛ Ğȝ Àè 20 – 10 ÆĤãş Û(Narain *et al.*, 1994) gÆΛÆì ĞÒǵ ȸ ţζĞèÜ òŸǹ ƟüÀÛΣä ĠÀÛõä òşÂΛ ÜĞşζĦŸ ʔÀì Û î ÀÁìƚä ȐĤã ÆΛȝ şÜ ÛğÀüÀÛǵ ʔşÆĤŸõ ĞDzĿQÀÕ ğÀΛȝÀȐ ϙÆƠ Æę ·ÀŢÎõä ʔøϘǵ ÀŁQÊΛ Æę ¢φÜ ʝφ ɃζèÕÒÎã ·êÆʅä ȸȝ ĞƤÀφ ĠΛζφÀę ĞĿζϘÀDZ

ȸ ĞΛĶü ÆφäşØã ĞΛÆĤΛ ʝäÀζş ĞĿşø õζΛá ʔŸȝ ǨΛÀDZÜ ƟøQõä āøÀDzQõä ğÀŢşÜ ÆĞÊǨ ƟøQõä ğäÆȐQÊţä ʝÜ (Horak *et al.*, 1988) *Zidati* *ĞĿäÆΛØõä ĠΛÀĤÎõä ĞĿèøÀŢŸĞõä* ȸ ǰQÀǨ ƟøQõä ĞĿèøÀŢŸĞõä ƿζÊ ÈĿõş ¯ ĠΛàÀ8õä ÆφäşØõä Ž gáζDZζ ÀΛÆŸDZ ŸȝÀÀǨ ·ÀŁÂΛÀQ

Ž ÆφäşØõÀã ÆŸɞä ğÀãÀŢQõä ȸ Ğȓ øÀȝ ğƚÀǵ ȸ ȟŸãɋä Ź ˙ğÀφäζĿΣä Ž ôÀţä Ž ÀőÆǵ ʝÜ şÆĞΛ ÛÀŢĿÒÀ ÆΛȝ ôÀţä ϙşÆǵ ȝ ĘζäÀQõÀã ÀŢŁŢĤ Ûā ŸÒõäş ÙÛÕõä ʝÜ ȸȝ ÀƤÀφ äØŁ ʝζÒΛ Æęş ÛʝÀÊφɋä ÆΛȝ ζŁ Àư ĶǰÒäş ÀΛǨäζǨ ÕęÜ ĞΛDZäÆõä ğÀφäζĿΣä ȸ ˙Õõã ȸ ÀǯõÜ ·ÀŁşÀÀã ĞĿΛƯ ğÀζǿä ʝɉş ÛÀŢȓäÀȝÜ òÀÔΛÜ ʔŸȝ gøÆę ÕęÜ ğÀφäζĿΣä ĞƤÀΛõä hookworm ĞĿÔÎõä ʝäÆΛÆõÀã ÆŸɞä āÀŢQõä ȸȝ ÆφäşØõÀã ÆŸɞä āÀŢQõä ÀĿĿQ ÆĤÔõä ·ğÀȠζQèζŸÒφɉä ĞŸĿÔζ ȸ nematades ğäáζÊư ȸȝ

ȻĿţä ğÀĤŁf üüäζì ƟŁ ʝÀÊφȐõ ʔşÆĤõä øáÀÔȠ ˙òÀÕQφƚä äÀüş ʔşÆĤõä øÆÔȠ ĞϘŸϘ ğÀĿƏÀãζõä õÀŁŸȝ ȣ ÀĤQèä ·ÆφäşØõä ĘŸÛǨ ƟøQõä ȝęäζÕõä Ì ĿĤǨ ǪĿǵ ĞΣÀţä şÜ ĞãØĤõä ĞãØĤõä ȻĿţä ğÀĤŁθ Ž ʔşÆĤõä üÎÀǨ ˙Ƃşʝä Ž ÜƟÛƴ ÕÒÎã ʔşÆĤõä ÀŢĿζ ϙÆƠ ȝęäζȠ Ûʝζõ̃äÀõä) ĞΛƎõä ğÀΛÆǯõä şÜ (ƀä ···ƟȠşÀõä ÕΛÆõä Ûàşʝä) ĞĿƏÀţä øζĿÛõä ÀŢÀõüǨ ƟøQõä *ĞĿèøÀŢŸĞõä* ˙gáÀȝ ĞĿõÀQõä āÀΛDZʝä ȸ ğÀĿŸĿÀÛõä ʝζÒǨ ğƚÀΣä ȻØŁ Ž Û(ƀä ···ĞȝÀȐÕõä ȝęäζÕõä Ž øζÛQǩş øζĿÛõä ɃÆĤǨ ƟøQõäş Û*ĞΛÀĤÎõä ĞĿèøÀŢŸĞõä* Û*ĞęŸŁĤõä ĞĿèøÀŢŸĞõä* Û*ĞĿõäÀQèʝä* şÜ *gÀΛÀ8ţä ĞĿèøÀŢŸĞõä* ˙ĞĿõÀQõä āÀΛDZʝä şÜ Û*ĞÁÀΛţä* şÜ *ĞĿÕÀÎõä* şÜ Û*ĞĿĤÕÀţä* ˙ĞĿõÀQõä āÀΛDZʝä ȸ şÜ *ĞÁÀΛţä* şÜ *ĞĿĤÕÀţä* ˙ĞĿõÀQõä ȝęäζÕõä Ž øζÛQǩş ğÀĿΛÆǯõä ɃÆĤǨ ƟøQõäş Û*ĞęζÕÎţä*

ğƚÀΣä ȻØŁ Žş ĞΣÀţä ȻĿţä ğÀĤŁθ üüäζì Ž ʔşÆĤõä ÆÊQÒǨ ˙ĞĿφÀǯõä Ž ·*Stagnicola*

*Ilyanacca*

(Inder *et al.*, 1997) *spindale*

*Douthitti*

24

circumoval

24 – 10

.(Kolarova *et al.*, 1994)

.(Lindblade, 1998) (Kolarova)

[illegible] (*et al.*, 1989) [illegible] 200 [illegible] pre-patent [illegible] 22.5 [illegible] (Muller *et al.*, 1993) [illegible] copper oleate [illegible]

## [illegible]


Anonymous. Cercarial dermatitis outbreak at a state park—Delaware, 1991. *MMWR Morb Mortal Wkly Rep* 41:225–228, 1992.

Baskin, B., K.B. Islam, B. Evengard, L. Emtestam, C.I. Smith. Direct and sequential switching from mu to epsilon in patients with *Schistosoma mansoni* infection and atopic dermatitis. *Eur J Immunol* 27:130–135, 1997.

Chamot, E., L. Toscani, A. Rougemont. Public health importance and risk factors for cercarial dermatitis associated with swimming in Lake Leman at Geneva, Switzerland. *Epidemiol Infect* 120:305–314, 1998.

Horak P., L. Kovar, L. Kolarova, J. Nebesarova. Cercaria-schistosomulum surface transformation of *Trichobilharzia szidati* and its putative immunological impact. *Parasitology* (Pt2): 116:139–147, 1998.

Inder Singh, K., M. Krishnasamy, S. Ambu, R. Rasul, N.L. Chong. Studies on animal schistosomes in Peninsular Malaysia: Record of naturally infected animals and additional hosts of *Schistosoma spindale*. *Southeast Asian J Trop Med Public Health* 28:303–307, 1997.

Kolarova, L., V. Gottwaldova, D. Cechoya, M. Seycoya. The occurrence of cercarial dermatitis in Central Bohemia. *Zentralbl Hyg Umweltmed* 189:1–13, 1989.

Kolarova, L., J. Sykora, B.A. Bah. Serodiagnosis of cercarial dermatitis with antigens of *Trichobilharzia szidati* and *Schistosoma mansoni*. *Cent Eur J Public Health* 2:19–22, 1994.

Kullavanijaya, P., H. Wongwaisayawan. Outbreak of cercarial dermatitis in Thailand. *Int J Dermatol* 32:113–115, 1993.

Lindblade, K.A. The epidemiology of cercarial dermatitis and its association with limnological characteristics of a northern Michigan lake. *J Parasitol* 84:19–23, 1998.

Muller, V., P. Kimmig, W. Frank. [The effect of praziquantel on *Trichobilharzia* (Digenea, Schistosomatidae), a cause of swimmer's dermatitis in humans.] *Appl Parasitol* 34:187–201, 1993.

Narain, K., J. Mahanta, R. Dutta, P. Dutta. Paddy field dermatitis in Assam: A cercarial dermatitis. *J Commun Dis* 26:26–30, 1994.

Pilz, J., S. Eisele, R. Disko. [Cercaria dermatitis (swimmer's itch). Case report of cercaria dermatitis caused by *Trichobilharzia* (Digena, Schistosomatidae).] *Hautarzt* 46:335–338, 1995.

Visser, L.G., A.M. Polderman, P.C. Stuiver. Outbreak of schistosomiasis among travelers returning from Mali, West Africa. *Clin Infect Dis* 20:280–285, 1995.

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## CLONORCHIASIS [illegible]

### ICD-10 B66.1

[illegible] .*Clonorchis sinenns* [illegible]

[illegible] *Clonorchis sinenns* [illegible] 5 – 3 [illegible] 20 – 12 [illegible] *Opinthorchis* [illegible] Û 1907 [illegible] operculate [illegible] *Parafossarulus* [illegible] *Melanoides* [illegible] *Bulimus* [illegible] *Alocinma* [illegible] Û *Semisulcospira* ([illegible]) [illegible] 100 [illegible] 12 [illegible] Û Cyprinidea [illegible] ([illegible]) [illegible]

[illegible] embryonated ([illegible]) [illegible]

[illegible] miracidia [illegible] lavra [illegible] sporocyste [illegible] rediea [illegible] pedogenesis [illegible] 48 – 24 [illegible] metacercaria [illegible] juvenile [illegible] 4 – 3 [illegible] %32 [illegible] 3 [illegible] (Kim, 1995) [illegible] 40 [illegible]

[illegible]

ŌƎǤè ɁŸȝ ·Ǥɸʐùʐɳ ǦŐÛÂɳ ăşøăă ȸÂØŏă ÆÂȝ şǗ Ǥɸʐùʐɳ ĘùÂÂɳ ȸɳ ȸÂÀDZÂȚʈă ÆÂȝ ƁÂĤŏă ȸɳ ğÂÂɍʐŏă Ž ŏøʐÂʐƎɸ ǤÂÂÆɳ Ž ÂÆÂƎò ÂÀDZÂȚɳ 150 ƙă %26 òÆĤɳ øÂÎǬɸă ÆDZş ·òÂǯʈă Sun,) ăÆÂÒă òÂÂƘǬɸʐɳ Ž ăʐÔĦʐ ÀDZÂȚɳ 400 ƙă %15.5 ɁşÆĤŏă òÆĤɳ ȷÂõş ğÆĦǬʈă .(1980

ǤƎɸÂÊɸǗ ÂÂÒă Ž ȹŸƎÂÛŏă ôʐƎă ğÆDZş ǬƎǵ ǤʐÆɕ ǤÀÎǤŏă ɁşÆĤŏă ȷǗ şÆǤÂ ·ǫşÆΣă ȝɳ ÛǤɸʐùʐʈă ǦŐÛÂʈă Ž ǦŏÂǵ ȷʐƎŸɳ 30ş 7 ƙÂ ÀÎǤŏă ƙă øÂÎǬɸɍă øÆɕ ·ǦÂè 2.600 øŏ áʐĤƙ ȹøăʐȽ ʅƎŸɕǗ Ž ·ÂȽÆǵş ƙÔŏă àÀì āʐÂDZ Ž ǤÂÆĤÂɳ ÂŒǗ ÆŐǬĤÂ ÂǤÀŐƙ ǦŏÂǵ ȷʐƎŸɳ 20 ÀÂàÂÂʅă ȸɳ %16.7ş ÙÛŐŏă ȸɳ %36.4ş ȷÂÒÊŏă ȸɳ %5.8 Ž ɁşÆĤŏă ğÆDZş ·ȹøÆÔŏă ȸɳ ʈăʐɸǗ ǤǬŸǫ Ž %17.2ş %18.2ş %48.1ş ȝɕăʐŐŏă ȸɳ ƙȝʐɸ Ž %3.8ş %12.2ş ÒÅÎƙ Ɓ ÂÂøʐõ ǤÂøʐȚƤ Ž Ɓşɉă ǤÀÎǤŏă ǦŏÂΣă ȷǗ ʅȡøş Û(Chen *et al.*, 1997) ōÂƧɉă ÂøÂÎǬɸă ÀǯŏȷÂ ɃÀÎǤŏă ȹŸƎÂÛŏă ȷɇă ʐȽ *ȹøÆÔŏă ǦƎÔʅă ʈÂÂǬɳ* ȷǗ ɍǗ 1915 ȳÂȝ ɁøǬǵ ÂɍÆĤɳ ÆŸǤŏă Ōŏæ Ž ăăƎŏă ğÂÆĤŏ ğÂòʐĦʐ ğÀȚşǗ 1997 ȳÂȝ Ž .(Rim, 1990) ōÂÂȽ Ž ɁşÆĤŏă ÆŸɘă Ōȵăá ğăøÂǬȵɍă ƘÂÎõ ƙǵ Ž Û%11.3 ǤøăÆŐɳ ǤÀÎǤŏă ɁşÆĤŸŏ ʈăʐɸǗ 7 ÆDZş ÂȽøÂǬȵă Ź ōÂƧɉă ȸɳ ÂȝʐɸÂ 25 ƙă ȸɳş Üƙòʐʗʈă ŌÂŏşǗ ȸɳ %27.6 Ōǯɛ Ōŏæ ʅȡøş .(Joo *et al.*, 1996) %30 ƂǗ %2.8 ȸɳ Ǩǵşăƙ ğăøÂÎǬɸă ȝɳ ǤÂÆĤÂɳ Ǥèăøá ğÆDZş òÂǯʈă ŌƎǤè ɁŸȝ 1987 ȳÂȝ ȹÂʐ ÛǨȒɳ ğÆȝ áʐŐȝ òŸǹ ÂÊƠ ȝȑʐŏă ăØȽ ȸɳ ȟ 1 Ōõ Ž ǦȒÆ 27.781 ȼÛèʐǬɳ Âɳ ȟÀÂƙ ǨɸÂõ ÂÔÅì 76 øŏ ǤƎȝ ȸɳ %80.3 ȷǗ ȸɳ %13.3ş ÀÎǤŏă ȸɳ %12.7 Ž ɁşÆĤŏă ğÆDZş ·ȳÂÂǬƎʐ Ž .(Hong *et al.*, 1994) ăăƎŏă ƎõȷǗ ŌȶÊŏă ȷǗ áÆǵ Æɕş Ûʈøăăʈă Ž ȳÀƙ ȹøǬŏă ōÂƧɉă ȸɳ %100 – 53.4ş ȝɕăʐŐŏă ȷǗ ȷÂÆÆŏă Ž ĘùÂʈă ȒĤă Ž ÆDZş .(Kino *et al.*, 1998) ɁşÆĤŏÂă ÂÀƙăʐƙ ÀǯõɉĂ ȷÂõ ·ǤÂÆĤÂɳ ǨɸÂõ ǦòʐĦÂʈă ÙÛŐŏă ȸɳ %45.5ş āŸÒŏă ȸɳ %20.6

Ōõ Ž òÂÂùɉă ȸɳ ƙȣŏÂǤŏă ƙăş ǫÂɸǫă ȸɳ øʐõØŏă ƙă ÂøÂÎǬɸă ÀǯõǗ ɁşÆĤŏă ȷǗ ÆDZş ŌÂŏşǗ ǤæÂòǗ ğÂȝʐȶŐŏă ÀǯõǗ ȷǗ ·ǤŸəÂŐŏă ǦŐƎŐΣă ƂǗ ğăáʐDZʐʈă ǤØȽ ǨÂÂȝ ·Ǥɸʐùʐʈă ĘùÂÂʈă ·ÂǤŏÂȡ ŏȹøÂŏă ŌȶÊŏă ȷʐŸõŭÂ ɃØŏă

[illegible] (Chen *et al.*, 1989) [illegible] 5 [illegible] 28 [illegible] 74 [illegible] 3.9 [illegible] 96.1 [illegible]

[illegible] kD-24 [illegible] (Park *et al.*, 1995) [illegible] Hou *et al.*,) [illegible] (1989 [illegible] (Shin *et al.*, 1996) [illegible]

[illegible]

[illegible] (Fang, 1994) [illegible] 100 [illegible]

[illegible] rteflex [illegible] (Rim, 1982) [illegible] 1.000 – 100 [illegible] 100 [illegible] (Manson and Apted, 1982) [illegible] 1.000 [illegible] 35 – 28 [illegible] 19 – 12 [illegible] *Heterophyes heterophyes* [illegible] *Opinthorchis viverrini* [illegible] *Metagonimus yokogawai* [illegible]

[illegible] .(Ditrich *et al.*, 1992) [illegible]

[illegible] .(Lim, 1990) [illegible] %52 [illegible] (Hong *et al.*, 1998) [illegible] %49 [illegible] intradermal [illegible] %26.2 [illegible] 3.180 [illegible] %21.6 [illegible] 598 [illegible] .(Kim *et al.*, 1990) [illegible] %88 [illegible] %92 [illegible] Liu *et al.*,) [illegible] %4 [illegible] %2 [illegible] .(1993

[illegible] %0 [illegible] %5 [illegible] %14 [illegible] Lin) [illegible] %0 [illegible] %10 [illegible] %14 [illegible] A [illegible] G [illegible] (*et al.*, 1995 A [illegible] %90 – 87 [illegible] %100 [illegible] %100 [illegible]

[illegible]

[illegible] 7 – 3 [illegible] 120– [illegible] 18 – 10 [illegible] (Fan, 1998) [illegible] 7 – 3 [illegible] 20– [illegible] KGy 0.15 [illegible] KGy 0.05 [illegible] (Duan *et al.*, 1993) [illegible] Hong) [illegible] 6 [illegible] 24 [illegible] %6.3 [illegible] %12.7 [illegible] (*et al.*, 1998 [illegible]

[illegible] molluscicides [illegible] predators [illegible] *Notocotylus attennatus* [illegible]

[illegible]


Chen, C.Y., J.W. Shin, S.N. Chen, W.C. Hsieh. A preliminary study of clinical staging in clonorchiasis. *Zhonghua Min Guo Wei Sheng Wu Ji Mian Yi Xue Za Zhi* 22:193–200, 1989.

Chen, S., S. Chen, F. Wu, *et al.* Epidemiological survey on *Clonorchiasis sinensis* in Yangxin County of Hubei Province of PR China. *Southeast Asian J Trop Med Public Health* 28 Suppl:51–53, 1997.

Ditrich, O., M. Giboda, T. Scholz, S.A. Beer. Comparative morphology of eggs of the Haplorchiinae (Trematoda: Heterophyidae) and some other medically important heterophyid and opisthorchiid flukes. *Folia Parasitol* (Praha) 39:123–132, 1992.

Duan, Y.F., C.C. Song, G.C. Shou, *et al.* [Effect of gamma-irradiation on infectivity of *Clonorchis sinensis* metacercariae]. *Zhongguo Ji Sheng Chong Xue Yu Ji Sheng Chong Bing Za Zhi* 11:45–49, 1993.

Fan, P.C. Viability of metacercariae of *Clonorchis sinensis* in frozen or salted freshwater fish. *Int J Parasitol* 28:603–605, 1998.

Fang, Y.Y. Epidemiologic characteristics of *Clonorchiasis sinensis* in Guandong Province, China. *Southeast Asian J Trop Med Public Health* 25:291–295, 1994.

Hong, S.J., Y.H. Lee, M.H. Chung, D.H. Lee, H.C. Woo. Egg positive rates of *Clonorchis sinensis* and intestinal helminths among residents in Kagye-ri, Saengbiryang-myon, Sanchong-gun, Kyongsangnam-do. *Korean J Parasitol* 32(4):271–273, 1994.

Hou, M.F., C.G. Ker, P.C. Sheen, E.R. Chen. The ultrasound survey of gallstone diseases of patients infected with *Clonorchis sinensis* in southern Taiwan. *J Trop Med Hyg* 92:108–111, 1989.

Joo, C.Y., M.S. Chung, S.J. Kim, C.M. Kang. Changing patterns of *Clonorchis sinensis* infections in Kyongbuk, Korea. *Korean J Parasitol* 35:155–164, 1997.

Kim, J. Image analytical observation on the growth and development of *Clonorchis sinensis* in rats. *Korean J Parasitol* 33:281–288, 1995.

Kim, S.S., M.H. Han, S.G. Park, H.S. Lim, S.T. Hong. [A survey on the epidemiological factors of clonorchiasis in the Pohang industrial belt along the Hyungsan river, Kyongsangbuk-do]. *Kisaengchunghak Chapchi* 28:213–219, 1990.

Kino, H., H. Inaba, N. Van De, *et al.* Epidemiology of clonorchiasis in Ninh Binh Province, Vietnam. *Southeast Asian J Trop Med Public Health* 29:250–254, 1998.

Lim, J.H. Radiologic findings of clonorchiasis. *AJR Am J Roentgenol* 155:1001–1008, 1990.

Lin, Y.L., E.R. Chen, C.M. Yen. Antibodies in serum of patients with clonorchiasis before and after treatment. *Southeast Asian J Trop Med Public Health* 26:114–119, 1995.

Liu, X.M., W.F. Hu, Z.H. Wang, D.L. Chen, F.N. Xu. [Comparative studies on the diagnosis of clonorchiasis by IEST and IFAT]. *Zhongguo Ji Sheng Chong Xue Yu Ji Sheng Chong Bing Za Zhi* 11:273–275, 1993.

Manson, P., F.I.C. Apted. *Manson's Tropical Diseases*, 18th ed. London: Baillière Tindall; 1982.

Park, H., M.Y. Ko, M.K. Paik, C.T. Soh, J.H. Seo, K.I. Im. Cytotoxicity of a cysteine proteinase of adult *Clonorchis sinensis*. *Korean J Parasitol* 33:211–218, 1995.

Rim, H.J. Clonorchiasis. *In*: Hillyer, G.V., C.E. Hopla, section eds. Vol. 3, Section C: *CRC Handbook Series in Zoonoses*. Boca Raton, Florida: CRC Press; 1982.

Rim, H.J. Clonorchiasis in Korea. *Kisaengchunghak Chapchi* 28 Suppl:63–78, 1990.

Shin, H.R., C.U. Lee, H.J. Park, *et al.* Hepatitis B and C virus, *Clonorchis sinensis* for the risk of liver cancer: A case-control study in Pusan, Korea. *Int J Epidemiol* 25:933–940, 1996.

Sun, T. Clonorchiasis: A report of four cases and discussion of unusual manifestations. *Am J Trop Med Hyg* 29:1223–1227, 1980.

# DICROCELIASIS [illegible]

**ICD-10 B66.2**

[illegible] (dicroceliosis, dircocoeliasis) [illegible] *Dicrocoelium* [illegible] Lancet luke [illegible] *.dendriticum*

*Dicrocoelium dendriticum* [illegible] *D. hospes* [illegible] (*D. lanceolatum* [illegible]) [illegible] 2.5 – 1.5 [illegible] 15 – 5 [illegible] 38) [illegible] *Zebrina detrita* [illegible] *Cionella lubrica* [illegible] *Bradybaena similaris* [illegible] *Helicella candidula* [illegible] *Formica fusca* [illegible] 12) ant [illegible] *F. gigantis* [illegible] *F. Picea* [illegible] *F.* cinerea [illegible] *F. rufibarbis* [illegible]

[illegible] (30 – 22 x 45 – 38) [illegible] 4 – 3 [illegible] 2 – 1 [illegible] (slime [illegible]) [illegible] 400 – 100 [illegible] (Schunter, 1992) [illegible]

[illegible] 76 – 38 [illegible]
.(Schuster, 1991) [illegible]

[illegible]
.[illegible] 12 – 10 [illegible]

[illegible] pulnonete land [illegible] *Camponotus* [illegible] *Limicolaria* [illegible]
.(Frank *et al.*, 1984) [illegible]

[illegible] %80 [illegible] %40 [illegible] %75 [illegible] %100 [illegible] %49 [illegible] 232 [illegible] (Haralabidis *et al.*, 1988) [illegible]
.(Frank *et al.*, 1984) [illegible] %94 [illegible] %50 [illegible]

[illegible] 1988 [illegible] 479 [illegible] (%0.4) 2 [illegible] (Reinthaler *et al.*, 1988) [illegible] el-Shiekh Mohamed and) [illegible] 3 [illegible] 208 [illegible] (Mummey 1990 [illegible] 7 [illegible] 208 [illegible] 34 [illegible]

[illegible] heavy [illegible] (1991) [illegible] 4.000 [illegible]

[illegible] Camara *et al.*,) [illegible] (Wenker *et al.*, 1998) [illegible] camelids [illegible] (1996 [illegible] (Sánchez-Campos *et al.*, 1999) [illegible]

[illegible]

[illegible]

[illegible] .(Schuster and Neumann, 1988) °20 [illegible]

[illegible] 49 [illegible] (%19.8) 44 [illegible] .(Braun *et al.*, 1995) %26 [illegible] 13 [illegible] 1.44 [illegible] %9.4 ± 91.2 [illegible] 1.45 [illegible] 1.3 [illegible] %11.6 ± 13.0 [illegible] %24.9 ± 26.7 [illegible] %7.1 ± 9.0 [illegible] 1.45 [illegible] 5 – 3 [illegible] .(Rehbein *et al.*, 1999) [illegible] %1.5 ± 41.2 [illegible] *Eurytrema* [illegible]

pancreaticum

Eurytrema pancreaticum .grasshoppers

8

Jithendran *et al.*,) %23.8 %5.0 %%69.8

.(1996

(21 38)

pesticides

.mass

Braun, U., R. Wolfensberger, H. Hertzberg. Diagnosis of liver flukes in cows—a comparison of the findings in the liver, in the feces, and in the bile. *Schweiz Arch Tierheilkd* 137:438–444, 1995.

Camara, L., K. Pfister, A. Aeschlimann. Analyse histopathologique de foie de bovin infesté par *Dicrocoelium dendriticum*. *Vet Res* 27:87–92, 1996.

el-Shiekh Mohamed, A.R., V. Mummery. Human dicrocoeliasis. Report on 208 cases from Saudi Arabia. *Trop Geogr Med* 42:1–7, 1990.

Frank, W., R. Lucius, T. Romig. Studies on the biology, pathology, ecology and epidemiology of *Dicrocoelium hospes* (Looss, 1907) in West Africa (Ivory Coast). *In*: Markl, H., A. Bittner, eds. *Recent German Research on Problems of Parasitology, Animal Health and Animal Breeding in the Tropics and Subtropics. Selected reports on DFG supported research.* Tübingen: Institute for Scientific Co-operation; 1984.

Haralabidis, S.T., M.G. Papazachariadou, A.F. Koutinas, T.S. Rallis. A survey on the prevalence of gastrointestinal parasites of dogs in the area of Thessaloniki, Greece. *J Helminthol* 62:45–49, 1988.

Jithendran, K.P., J. Vaid, L. Krishna. Comparative evaluation of agar gel precipitation, counterimmunoelectrophoresis and passive haemagglutination tests for the diagnosis of *Dicrocoelium dendriticum* infection in sheep and goats. *Vet Parasitol* 61:151–156, 1996.

Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases.* Boca Raton: CRC Press; 1980.

Rehbein, S., S. Kokott, T. Lindner. Evaluation of techniques for the enumeration of *Dicrocoelium* eggs in sheep faeces. *Zentralbl Veterinarmed A* 46:133–139, 1999.

Reinthaler, F.F., F. Mascher, G. Klem, W. Sixl. A survey of gastrointestinal parasites in Ogun State, southwest Nigeria. *Ann Trop Med Parasitol* 82:181–184, 1988.

Sánchez-Campos, S., M.J. Tunón, P. González, J. González-Gallego. Oxidative stress and changes in liver antioxidant enzymes induced by experimental dicroceliosis in hamsters. *Parasitol Res* 85:468–474, 1999.

Schuster, R. Factors influencing the metacercarial intensity in ants and the size of *Dicrocoelium dendriticum* metacercarial cysts. *J Helminthol* 65:275–279, 1991.

Schuster, R. Zur Beeinflussung von *Helicella obvia* durch *Dicrocoelium*-Parthenitae. *Angew Parasitol* 33:61–64, 1992.

Schuster, R., B. Neumann. Zum jahreszeitlichen Auftreten von *Dicrocoelium dendriticum* in Zwischenwirten. *Angew Parasitol* 29:31–36, 1988.

Theodoridis, Y., J.L. Duncan, J.M. MacLean, C.A. Himonas. Pathophysiological studies on *Dicrocoelium dendriticum* infection in sheep. *Vet Parasitol* 39:61–66, 1991.

Wenker, C., J.M. Hatt, H. Hertzberg, *et al.* Dikrozoliose bei Neuweltkameliden. *Tierarztl Prax Ausg G Grosstiere Nutztiere* 26:355–361, 1998.

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## ECHINOSTOMIASIS !ƻǁɛ lƒlNjǭƪǁ ƅɛƣ

**njƥƢǕɛ ƕǐYNjǳǁɛ lƒǴNjȿƙǅǁɛ njNjɛƣY ICD-10 B66.8**

**ICD-10 B66.8 Other specified fluke infections**

.Echinostamatidosis ǐ Ȁŏă ğ İõƺ Îŋ ŏăá : 8 ăăÀţă

ĞŸÔƺ ȸŋ ğÆΛÆɜ ā İÀDZǐ ȸŋ ĞÀŸǬƯ ţăƺǭǐ ƱŁ ăØŁ ğ İǣ ƺ Ŏǯţă ŏăá Ōŋăƺɜ : ğ İĘĜÊŏă ÀTƺù ÛƘ8Ǭŋ ¢ÀÒõ Ƙ8ò ǐDzǵ ğ ăæ ğ İǣ ƺ Ōǯŋ ƱŁş ǚEchinostamatidae ǐ Ȁŏă ğ İõƺ Îŋ

0.6 – 0.5 3 – 1 15 – 5

spines

Sucker

(7 – 55 x 125 – 85)

30

*Echinostoma* 16

(Carney, 1991)

*E. hortense* (*E. lindoenne*) *E.echinatum*

*E. revolutum* *E. ilocanum*

*Hypoderaeum* *E. trivolvis* *E. malayanum*

681 (1994) .*conoideum*

*E. ilocanum* 8.1 %8.3

.*E. revolutum* %0.8

(3)

.(Liu and Harinasuta, 1996)

ÆÄŶÅÄķ şƙĞÆŶÆÅöä ÅÀÂÆöÅŋ ş(ğÀÛŋζè) ÅÆÊÆφşÆφÜ ÆÆTä Ž ĞÅşɼÅţä ļÅöä ĞÕζÎŋ ÆDZζǩ ÆøåÅφş ɉäæÀƨä ş mongoone ÈʈÅöä ş ÀÅäÅÅʅä ş ÙÛÖöä ş āŶȮöä ɃÆĦķ ǬÆǵ ÛäøζζÅ8ÅèÅ ş ŏäÂDZÜ ş(ɃÂÅşɼζè ş äşÅDZ) ÅÆÊÆφşÆφÜ ş ƙĞÆŶÆÅöä Ž ĞÆφÅÕζŸÅqä ļÅöä ĞÕζÎŋ ÀÎΩÅǩ ·ɉÅÊφqä ɉäÀÅÅöä) ĞÅøüÅöä ô øäζÕöä ¯ ɉÅÊφqä ƂÜ ĞζÅr̈Ü ¯ ɃÆĦķ ş ÛÆÅŶÅÄķ ÆÆTä ş ƙÔöä āζÅDZ ȸŋ ÛƙĞÆŶÆÅöä Ž ÀÎĞöä ƙä %50 ƂÜ %1 ȼøäÆÖŋ øÅÎΩφä ÆDZ ş ·ÙÛÖöä ş āŶȮöä ş(ɉäæÀƨä ş ÅÅøζÕ ĞÅøζƬƤ ş ɉÅæÅÆöä Ž ĞÆÊÅÅøζTä ļÅöä ĞÕζÎŋ ÆDZζǩ ·ƙÔöä Ž āŶȮöä ƙä %14 ş Ž ş ğ ÅĞèÅÅţä ʔÆǵÜ Ž ÀÎĞöä äÅÅæ ȸŋ ĞÆƷ 642 ȸŋ (%0.5) 3 Ž ʔşÆĦöä ǨÅÎΩõä ǬÆǵ .(Son *et al.*, 1994) ʔÀǹÜ ĞĞèÅÅŋ Ž ĞÆƷ 116 ȸŋ (%9.5) 11

·ĞÆÊÆəÀöä øÆÔţä ĞÆφäζÆΣä ļÅöä ğ ÅõζÎţ ŽäÅ8ƨä ţäζΩöä ş ĞÛèζΩţä ŏÅÅζǫɉä :3 ȯşÆƨä

| ĞÛèζΩţä ŏÅÅζǫɉä | | | |
|---|---|---|---|
| øÅÎΩɼä | ȾøφÅǯöä | ȯşɉä | ţζÅöä |
| ÛÆÆTä ÛÕÅäÅƎöä Û(äşÅDZ) ÅÆÊÆφşÆφÜ ƙĞŶÆÅöä ÛÅÅÂÆöÅŋ | ʒşäζÕöä Ûğ ÅÅζǹÀöä | ĞÅζΩÊţä ğ ÅĦęζÕţä | ŏÅõζÎöä ļÅöä ĞÕζÎŋ |
| Ûɉ ÅæÅÆöä ÅÅøζõ ĞÅøζƬƤ | ÕʈÊöä Û8 ζɖÀÎöä | ğøæÅƨä ÛĞÆĦÖÅţä ʒşäζę | ĞÆÊÅÅøζTä ļÅöä ĞÕζÎŋ |
| ÛÆÆTä ÛƙÔöä ÛƙĞŶÆÅöä ÛÅÆÊÆφşÆφÜ ÆφŶÅÄķ | ʒşäζÕöä | gyraulus ş r̂ζĞTä ʒşäζę | ĞÆφÅÕζŸÅqä ļÅöä ĞÕζÎŋ |
| ÛÅÆÊÆφşÆφÜ ÛÆÆTä ÛƙĞŶÆÅöä ÛÅÅÂÆöÅŋ ÆφŶÅÄķ ÛğøζζÅ8Åè | Û8 ζɖÀÎöä Ûʒşäζ Õöä ÕʈÊöä | ʒşäζę ÛĞÅÆÆTä ğ ÅĦęζÕţä ʔÀǹÜ ţäζφÜ ş ĞÆĦÖÅţä | ĞÅşɼÅţä ļÅöä ĞÕζÎŋ |
| Ûɉ äζÅÄķ ÛÅÆÊÆφşÆφÜ ÆφŶÅÄķ | ğ ÅÅζǹÀöä | ĞÆĦÖÅţä ʒşäζę | ĞĞŸÖÅţä ļÅöä ĞÕζÎŋ |
| ĞÆöÅʈÎöä ÅȮÅÅŋÜ | Û8 ζɖÀÎöä Ûʒşäζ Õöä ğ ÅÅζǹÀöä ÛÕʈÊöä | ĞÊʈÎΩţä ʒşäζę Heliosoma | *trivolvis* ļÅöä ĞÕζÎŋ |
| ÆφŶÅÄķ | 8 ζɖÀÎöä Ûʒşäζ Õöä | ğ ÅĦęζÕţä ÛĞÆĦÖÅţä ʒşäζę ĞÅζΩÊţä | ĞÆüşÀÅţä ĞŋζʈĦŸöä |

[illegible] *Radix* [illegible] *Lymnae* [illegible] .(Lee *et al.*, 1991) [illegible] .%6.5 [illegible] %2.8 [illegible] *teivolvia* [illegible] 13 [illegible] 26 [illegible] .(Marquardt *et al.*, 2000)

[illegible] (%96 [illegible] %24) [illegible] *H. conoideum* [illegible]

[illegible] %9.5 [illegible] %0.5 [illegible] %0.4 [illegible] 75 [illegible] (Lee *et al.*, 1994; Son *et al.*, 1994) [illegible] .(Huh *et al.*, 1994) 1994 [illegible] .(Huffman and Fried, 1990) [illegible] .(Chai *et al.*, 1994) [illegible] *hortense* [illegible]

āÅŢQöä ϙşÆǵ ȸз ŋEŸGQöä Ź ·(lee *et al.*, 1990) ȷÅEǵǰä ȴŢȞŋ Ž ŏÅȞŋǰä ĞȞţ Ž ʔȬĞǩ ·*ĞEüşÄÅţä Ğŋζŧ̵ĦʋĺÖäş ĞĞŸȬÅţä ȴÅöä ĞȭζÎŋ* ȸз ȴDZÅφ øζEÛöä Ž ȴEǹş ŏÅȞŋǚ

Ž ĞEƵǰä ğäæ ȴÅöä ğÅȭζÎţ ȯşǰä Ùèζ(Qţä Ƀζǯöä ȷǚ :ȯÅȬQφɍä äÅüş ʔşÆȞöä øÆÔŋ ȷÅÊφRö ʔşÆȞöä øÆÔŋ (3 ȯşÆƨä) āØȞöä ŏÅţä ȝęζę ζȽ øÆÔţä ĞEφäζEΣä ȏäÅŋǰä Ž ·ÆφäşØöä ƵəŸǹ ɃşüΛ ɃØöäş ÛɄøφÅǯöä Ùèζ(Qţä Ƀζǯöä ζȽ ȸÅǹøä ƘEəÅŢÅöä ŏÅζǭQöş ʔÅǹǚ ğɍÅǵ Ž øζÛQǩ Æę ȸÖöş ÛȝęäζȬöä Ž ĀφäşØöä ƵəŸǹ ÕÖÎQǩ ğɍÅΣä ȸŋ ƘǯÖöä ȷÅÊφqä ÆÊQÖΛ ·āØȞöä ŏÅţä Ō̄Ƨ Ž ʔøQǵş ÛƵEqäÅÎöä şǚ ƙȝäÅÔţä ğäæ ğÅζǹÅöä Ž pila *ŏŸEĞöä* ȷÅÊΛƨä ·ÆEDZ ŌÖÎæ ƥζĞÛŋ Ƙȡ ǥÅǭ Ùèζ(Qŋ Ƀζǭ (ţŸQäǚ) ȯşÅΛQæ ʔşÆȞöä Åŋ EĞöÅȡ ÅŒǰÛ ÆφäşØöä ƵəŸǹ Ƀşüǩ ɄøQöä ȝęäζȬöä Ƙæ ȸŋ ȷÅŧŢŋ *Viviparus* *ğåäɍζöäş* *Corbicula* ÈΛDZ ȸŋ clam ğÅζǹÅöä ȷζÖǩ Ƙǵ Ž ·äşÅDZ ğΛÂDZş ƘĞEŸEÅöä Ž ĞÅEφ Ō̄õüǩ āØȞöä ŏÅţä Ō̄Ƨ ȸŋ ğƘǯõ āşÅɽ ȭÅΛȽ ·ÆĞÊöä ÈΛÅöş ĞŧŢţä ɄȽ ƙȝäÅÔţä ğäşæ ȸŋ ĞEDZɍζÖΛǚ ÅŢφ ĞŢDZş ȸŋş ·ȴÅöä ĞȭζÎŋ Æφäşæ ƵəŸ˥ ĞĞèΛÅŋ ŏÅζǭǚ ÅŒǚ ƘĞǩ ɄøQöä ɄøQöä āØȞöä ŏÅţä ğÅΛəÅȭ ȸŋ ǥøäÅȡ ÅŢEζ ĘüÅΛŋ Ž ȴÅöä ğÅȭζÎŋ ŏäå ϙÆȝ :(ĞEÅEæ) ĞƤÅφ ɄŸEÅÛöä ŏäÆöä endemicity ĞEΛüζǩ ·ǥÅEΣä ÆEę ʔŸȝ ŏÅÖĞöÅæ ƘÛèζ(Qţä ŏÅζǭQö ĞŧÊǩ ·ȭÅƧǰä şǚ ğÅζǹÅöä ȭŸŢQèä ǥåÅȝ ȸз

ŏäå ÅŢφä) ĞΛääƎöä ǥåÅţä Ž ȏζEĞöä åζDZş ğÅĞQǚ ʔŸȝ ÒEÅÎQöä ÆŧQȞΛ :ÒEÅÎQöä Āƶşǚ equinostome ɄŸΛØöä Ƙ8ǯöä ţζφ ʔŸȝ EåÅŧQȝä ȏζEĞöä Æę ƵŸQƩ Û(ʔȞţä ğÅȝÅQŋ biliary ĞΛøäÅŋ şǚ ĞΛÆȞŋ ğÅæζÕ̆ţ ĞADZǚ ɃζƠ ɍ ɄøQöä ȏζEĞöä ȸз ȏζEĞöä ĆØȽ ȧÅΛǩ ȷǚ ·ʔÅǹǚ

ĞȞζÅÖŋ ǰŋäÅæ ÆEüζǩ ɄŸEÅÛöä ŏäÆöä äØŢ EEĞÊφ ĞŸEŸȬöä ĞΛÅΛÊöä ĞEƵǰä øƎǩ ɍ :ĞȞζÅÖţä ĞÅEΛöä ȭÅƧǰä şǚ ğÅζǹÅöä Ō̄ȭǚ ÅüÅƯ ȯζǵ ĞφζüζŢä ĘüÅŢä Ž ǥÅŢŧƨä ƵEÕ̆ǩ ØĞȜ ·ĞEȝζφ Æę ĞÅèÅQţä ğäåÅȞöä ĆØȽ ƘE8ǩ ȷǚ ȴǭǿ ÛȬöØæ ÿÅEȬöä ȸŋ ȴȽÅΛØƠ ȝŋ EÆEDZ Ğǹζ(ĞÛţä Ƙȡ şǚ ŏÅQǹä Ƀǚ ğåǚ ɄøQöä ĞEȝζÛöä ĞEDZζǿζÖΛqä ĞȞζÅÖţä ȯζǵ ȝəäÅöä ȯÅǯţä ȷǚ ·EĞȞò ȷζÖΛ *ȴÅöä ĞȭζÎŋ* ţζęş dzşäÅǩ ÛɃƘφşɍζè ǥÅΛÂDZ Ž şÆEö ǥƘШ Ž ϙÆǵ ĞΛÅÎĞöä ʔşÆȞöä

ÕƧ ȯİǹấǐ ȸỎö ÛĠÕÛĄţă ÕŸǩ Ž ğİĦŧǫŎă ȐĦȁ Ž %96ş 24 ƙǟ ÀÎĠă Ž *ŏİõźÎǟ* *Corbicula lindoenis* ɃźǹÀöă ÀǫİǬǩ ʒɳ ô øİĦǩ ǥƘĦĠă ʔŸʒ *Tilapia mossambica* ĠÀÎĠă ʔşÆĦöă ǫşÆǵ Ζęźǩ ˙ÕöØö ĠDzǂǬǫş ·ĠÀÎĠă ʔşÆĦŸö ɄÊǂǝÀöă øÆÔţă ȷÀõ ɃØöăş ô øăźÕöă ƙǟ ĠÀƎöă ǥÆΣă ǥøşấ ÀŧǫÊǩ ˙Ōõ ʔŸʒ ·ğÀźǹÀöă ȸɳ ţźÀöă ăØŁ ʔÀǫǹă Àɳ ÆÀʒ ·Ǜèźǫɳ Ƀźǰõ ā ØĦöă ŏİţă ʒęăźęş ɄǝİŒ Ƀźǰõ

ȔøɯƐƥøDžǁƐ


Carney, W.P. Echinostomiasis—a snail-borne intestinal trematode zoonosis. *Southeast Asian J Trop Med Public Health* 22 Suppl:206–211, 1991.

Chai, J.Y., S.T. Hong, S.H. Lee, G.C. Lee, Y.I. Min. A case of echinostomiasis with ulcerative lesions in the duodenum. *Korean J Parasitol* 32:201–204, 1994.

Huffman, J.E., B. Fried. Echinostoma and echinostomiasis. *Adv Parasitol* 29:215–269, 1990.

Huh, S., S.U. Lee, S.C. Huh. A follow-up examination of intestinal parasitic infections of the Army soldiers in Whachon-gun, Korea. *Korean J Parasitol* 32:61–63, 1994.

Lee, S.H., S.W. Hwang, W.M. Sohn, *et al.* [Experimental life history of *Echinostoma hortense*]. *Kisaengchunghak Chapchi* 29:161–172, 1991.

Lee, S.H., T.Y. Noh, W.M. Sohn, *et al.* [Chronological observation of intestinal lesions of rats experimentally infected with *Echinostoma hortense*]. *Kisaengchunghak Chapchi* 28:45–52, 1990.

Lee, S.K., B.M. Shin, N.S. Chung, J.Y. Chai, S.H. Lee. [Second report on intestinal parasites among the patients of Seoul Paik Hospital (1984–1992)]. *Korean J Parasitol* 32:27–33, 1994.

Liu, L.X., K.T. Harinasuta. Liver and intestinal flukes. *Gastroenterol Clin North Am* 25:627–636, 1996.

Marquardt, W.C., R.S. Demaree, R.B. Grieve, eds. *Parasitology and Vector Biology*, 2nd ed. San Diego: Academic Press; 2000.

Radomyos, P., B. Radomyos, A. Tungtrongchitr. Multi-infection with helminths in adults from northeast Thailand as determined by post-treatment fecal examination of adult worms. *Trop Med Parasitol* 45:133–135, 1994.

Son, W.Y., S. Huh, S.U. Lee, H.C. Woo, S.J. Hong. Intestinal trematode infections in the villagers in Koje-myon, Kochang-gun, Kyongsangnam-do, Korea. *Korean J Parasitol* 32:149–155, 1994.


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## FASCIOLIASIS ƖƑƼƥǋǂDžǁƐ ƃƐɋ

**ICD-10 B66.3**

Ůfasciolosis ğİęøźǫţă öăá ŮHepatic distomiasis ɃÆĠÒöă ğÀǟźǑǰţă öăá ˙ğÀźấăÀţă

[illegible]

[illegible] *Fasciola hepatica* [illegible] *F. gigantica* [illegible] 40 – 20 [illegible] 3.000 [illegible] 15 – 10 [illegible] °37 [illegible] °0 [illegible] °10 [illegible] °10 [illegible] 12 – 10 [illegible] (miracidium [illegible] °10 [illegible] 60 [illegible] °26 [illegible] 20 [illegible] 8 [illegible]

[illegible] .Lymnaeidae [illegible] *Lymnaea* [illegible] Barriga,) *Stagnicola* [illegible] *Pseudosuccinea* [illegible] *Fossaria* [illegible] .(1997

[illegible] .(Bargues and Mas-Coma 1997) [illegible] *F. bulimoides Stagnicola caperat* [illegible] *F. modicella* [illegible] *F. viatrix* [illegible] *S. montanensi* [illegible] *P. columella* [illegible]

[illegible] *L. tomentosa* [illegible] *L. diaphana* [illegible] *L. viridis* [illegible] *L. truncatula* [illegible] .(Boray, 1982) [illegible] *P. columella*، *F. cubennis* [illegible] .(Cong *et al.*, 1991) [illegible]

[illegible] 30 [illegible] Rediae [illegible] 7 – 3 [illegible] pedogenesis [illegible] 418 [illegible] 320 [illegible] .(Barrgia, 1997) [illegible] 0.2 [illegible] %70 [illegible] 6 [illegible] 10 [illegible] %5 [illegible] °14 [illegible] °12 [illegible]

[illegible] 0.3 [illegible]

[illegible] 7 – 6 [illegible] 14 [illegible] 4 [illegible] 2 – 1 [illegible] 6 – 4 [illegible] 90 [illegible] 56 [illegible]

[illegible] *auricularis* [illegible] (*Radix* [illegible]) [illegible] superspecies [illegible] *L. a. rufescens* [illegible] *L. a. geodrosiana* [illegible] *L. a. rubiginosa* [illegible] *L. lagotis euphratica* [illegible] .(Malek, 1980) *L. a. natalenis* [illegible]

[illegible] *truncatula* [illegible] 12 – 9 [illegible] Prepatent [illegible] (12 × 75 – 25) [illegible] 104 – 90 × 197 – 156) [illegible] .(90 – 13 × 150 – 130 [illegible]

[illegible]

(Gavcía and Bruckner, 1997) … 44 … (Chen, 1991) 1990 … 500 … 1957 – 1956 … 200 … 1957 … (Malek, 1980) … 40 … 40 … 1972 … (Curtale *et al.*, 1998) … 1944 … 100 … 1959 … 82 … (Mora *et al.*, 1980) … 42 … 1978 … 31 … (Esteban *et al.*, 1999) %68 … %0 … %15.4 … %41 … %75 … (Esteban *et al.*, 1997) … 59 … 67 … coproantigenic … prepatent … Espino) …

[illegible] %0.7 [illegible] 5861 [illegible] .(*et al.*, 1998 [illegible] .(Apt *et al.*, 1992) [illegible] %20.6 [illegible] %6.1 [illegible] %13.5 [illegible] Reliance [illegible] .(Bechtel *et al.*, 1992) [illegible]

[illegible] %5 – %30 [illegible] %95.8 [illegible] %18.6 [illegible] %32 [illegible] 5.5 [illegible] 2.5 [illegible] %8 [illegible] %20 [illegible] %39 – 20 [illegible] *njovyi* [illegible]

[illegible] %33 [illegible] %45 [illegible] %50 [illegible] %19 [illegible] %27 [illegible] %71 [illegible] %12 [illegible] %7 [illegible] .(Srihakim and Pholpark 1991) %85 [illegible] %0 [illegible]

pericanalicular

periportal

53 (el Zawawy *et al.*, 1995) 30

Curtale) hemoglobineamia

187 %24 (*et al.*, 1998

(Abdel Wahab *et al.*, 1996)

47 (el-Nehwihi *et al.*, 1995)

10

(Faiguenbaum *et al.*, 1962) 38 9

6

(%38) (%100) (3 1000 %100)

(de Gorgolas *et al.*, 1992) (%67) (%38)

[illegible] .(Arjona *et al.*, 1995) [illegible]

[illegible] .(Soulsby, 1982) [illegible] tunnel [illegible] ASL [illegible] ALT [illegible] *novyi* [illegible] (bottle [illegible]) [illegible] 700 – 200 [illegible] 1.400 – 700 [illegible] 1.400 [illegible] .(Barriga, 1997) [illegible] %60 [illegible]

[illegible] °10 [illegible] °10 [illegible] enzootic [illegible] 3 – 2.5 [illegible] 500.000 [illegible]

[illegible] *Nasturtium officinale* [illegible] 10.000 [illegible]

[illegible]

[illegible] (1999) [illegible]

[illegible]

[illegible] %50 [illegible] .(Fawzy *et al.*, 1992) [illegible]

[illegible] .coprologic [illegible]

[illegible] %68 [illegible] %98 [illegible] prepatent [illegible] immunoelectrotransfer [illegible] Cordova *et al.,*) %100 [illegible] %98 [illegible] %95 [illegible] %89 [illegible] (1999 [illegible]

[illegible] %50 [illegible] 10 [illegible] 120 [illegible] 10 [illegible] (Sayad *et al.,* 1997) [illegible] 24 [illegible] 12 [illegible] b [illegible] a [illegible]

[illegible] (Yilam and Malone, 1998) [illegible]

[illegible] pH [illegible]

## ŬøШƐþøǅƐ


Abdel Wahab, M.F., T.A. Younis, I.A. Fahmy, I.M. el Gindy. Parasitic infections presenting as prolonged fevers. *J Egypt Soc Parasitol* 26:509–516, 1996.

Apt, W., X. Aguilera, F. Vega, *et al.* Prevalencia de fascioliasis en humanos, caballos, cerdos y conejos silvestres, en tres provincias de Chile. *Bol Oficina Sanit Panam* 115:405–414, 1992.

Arjona, R., J.A. Riancho, J.M. Aguado, R. Salesa, J. González-Macías. Fascioliasis in developed countries: A review of classic and aberrant forms of the disease. *Medicine (Baltimore)* 74:13–23, 1995.

Bargues, M.D., S. Mas-Coma. Phylogenetic analysis of lymnaeid snails based on 18S rDNA sequences. *Mol Biol Evol* 14:569–577, 1997.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Bechtel, U., H.E. Feucht, E. Held, T. Vogl, H.D. Nothdurft. *Fasciola hepatica*—Infektion einer Familie. Diagnostik und Therapie. *Dtsch Med Wochenschr* 117:978–982, 1992.

Boray, J.C. Fascioliasis. *In*: Hillyer, G.V., C.E. Hopla, section eds. Section C, vol. 3: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Chen, M.G. *Fasciola hepatica* infection in China. *Southeast Asian J Trop Med Public Health* 22 Suppl:356–360, 1991.

Cong, M.Y., G. Perera de Puga, J.R. Ferrer López. Identificación conquiológica de moluscos huéspedes de *Fasciola hepatica* en Cuba. *Rev Cubana Med Trop* 43:202–203, 1991.

Cordova, M., L. Reategui, J.R. Espinoza. Immunodiagnosis of human fascioliasis with *Fasciola hepatica* cysteine proteinases. *Trans R Soc Trop Med Hyg* 93:54–57, 1999.

Curtale, F., M. Nabil, A. el Wakeel, M.Y. Shamy. Anaemia and intestinal parasitic infections among school age children in Behera Governorate, Egypt. Behera Survey Team. *J Trop Pediatr* 44:323–328, 1998.

de Gorgolas, M., R. Torres, C. Verdejo, *et al.* Infestación por *Fasciola hepatica*. Biopatología y nuevos aspectos diagnósticos y terapéuticos. *Enferm Infecc Microbiol Clin* 10:514–519, 1992.

Esteban, J.G., A. Flores, R. Angles, W. Strauss, C. Aguirre, S. Mas-Coma. A population-based coprological study of human fascioliasis in a hyperendemic area of the Bolivian Altiplano. *Trop Med Int Health* 2(7):695–699, 1997.

Esteban, J.G., A. Flores, R. Angles, S. Mas-Coma. High endemicity of human fascioliasis between Lake Titicaca and La Paz valley, Bolivia. *Trans R Soc Trop Med Hyg* 93:151–156, 1999.

Espino, A.M., A. Díaz, A. Pérez, C.M. Finlay. Dynamics of antigenemia and coproantigens during a human *Fasciola hepatica* outbreak. *J Clin Microbiol* 36:2723–2726, 1998.

Faiguenbaum, J., A. Feres, R. Doncaster, *et al.* Fascioliasis (distomatosis) hepática humana. *Bol Chile Parasitol* 17:7–12, 1962.

Fawzy, R.K., A.E. Salem, M.M. Osman. Ultrasonographic findings in the gall bladder in human fascioliasis. *J Egypt Soc Parasitol* 22:827–831, 1992.

García, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

el-Karaksy, H., B. Hassanein, S. Okaza, B. Behairy, I. Gadallah. Human fascioliasis in Egyptian children: Successful treatment with triclabendazole. *J Trop Pediatr* 45:135–138, 1999.
Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases*. Boca Raton: CRC Press; 1980.
Mas-Coma, M.S., J.G. Esteban, M.D. Bargues. Epidemiology of human fascioliasis: A review and proposed new classification. *Bull World Health Organ* 77:340–346, 1999.
Mora, J. A., R. Arroyo, S. Molina, L. Troper, E. Irias. Nuevos aportes sobre el valor de la fasciolina. Estudio en un área endémica de Costa Rica. *Bol Oficina Sanit Panam* 89:409–414, 1980.
el-Newihi, H.M., I.A. Waked, A.A. Mihas. Biliary complications of *Fasciola hepatica*: The role of endoscopic retrograde cholangiography in management. *J Clin Gastroenterol* 21:309–311, 1995.
el-Sayad, M.H., A.F. Alam, M.M. Osman. Prevention of human fascioliasis: A study on the role of acids detergents and potassium permenganate in clearing salads from metacercariae. *J Egypt Soc Parasitol* 27:163–169, 1997.
Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea and Febiger; 1982.
Srihakim, S., M. Pholpark. Problem of fascioliasis in animal husbandry in Thailand. *Southeast Asian J Trop Med Public Health* 22 Suppl:352–355, 1991.
Yilma, J.M., J.B. Malone. A geographic information system forecast model for strategic control of fasciolosis in Ethiopia. *Vet Parasitol* 78:103–127, 1998.
el Zawawy, L.A., S.F. el Nassery, M.Z. al Azzouni, *et al.* A study on patients with eosinophilia of suspected parasitic origin. *J Egypt Soc Parasitol* 25:245–255, 1995.

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## FASCIOLOPSIASIS

**ISD-10 B66.5**

(*Fasciolopsis buski*) ... 3 ... 20 ... 75 ... first ... 30 ... 18 – 16 ... (Soulsby, 1982) (juvenile) stage ... 4 – 3 ... planorbid ... 4 ... *Helicorbis* ... *Hippeutis* ... (*Gyraulus*) ...

[illegible] *Segmentina polypylis* [illegible] redia [illegible] aquatic [illegible] %4 [illegible] 3

.(Waikagul, 1991) [illegible] 10 [illegible] %70 [illegible] %1 [illegible] %85 geohelminthiasis [illegible] %5 [illegible] 1995 [illegible] 5479 [illegible] Malek,) [illegible] %0.8 [illegible] 13 – 4 [illegible] (1980 [illegible] (Manning and Ratanarat, 1970) [illegible]

Plaut *et al.*,) (1969 .(Liu and Harinasutaq, 1996)

12 – 3

%40 %35 %13 %10

*Hippeutis*

*Polypylis* *Segmentine trochoideus* *umbilicalis*

.(Gilman *et al.*, 1982) *hemisphaerula*

.(Ditrich *et al.*, 1992) *Helicorbis umbilicaplis*

[illegible] (*Trapa* [illegible] *Eliocharis* [illegible]) [illegible] (*Zizania, Neptunia, Ipomoea, Eichhornia* [illegible] *Nymphaea* [illegible]) [illegible] Gilman *et al.*,) [illegible] (1982 [illegible] 93 [illegible] 3 [illegible]

[illegible] 140 – 128) [illegible] 90 – 60 [illegible] 150 – 128) [illegible] 85 – 78 [illegible] (Zeibig, 1997) [illegible] *Taenia* [illegible] .*Trichinella spiralis* [illegible] soluim

[illegible]

յǙ ɍǙ ·ǦǫɀŸƞ ĘǜÅƞ ꞓbƞ öÅƞ āÀì şǙ յÅèɉÅ ÅŁƘÎÕǩ şǙ ǦÅÆǞ şǙ ǦDZäÀÛöä ꞓbǜɀǪÊţä ǦÈəÅţä ɄøǪöä ğÅèäøÆöä ÀȽşǙ ·¢ÕÈÕƠ ÆȞò ÀƞǙ ɀȽş ğäẩÅȞöä ÕÅÆǦk БǙ ǦDZÀɯ ğÅÈòɀǪöä ȻØȽ ÕǪÕö ꞕȣÀõ ǦÕÈęẩ $2 - 1$ ĝÆƞ ɄŸȣƞ öÅƞ Ž ǦǫɀŸţä ğÅǨǦÅöä Ètɖ յǙ ƙÔöä Ž ǨÅÀDZǙ ɀÈÕǯǪöä БǙ ǦɀÀȓǙ ˉ ɄŸÈÀÛöä öäÆöä ꞓbƞ ÒŸÁǪŸö ǦäɀŸÛţä ʔÀn̈ɉä ğäöäÀDZɋä ꞓbƞş ·ɄŸÈÀÛöä Ž ÀÎǦöä äÄÅä ꞓbƞ ÒŸÁǪöäş ÛǦäÀÔţä ĝÀȽȶƨä Ǧƨ ÅȞƞş ÛȜęäɀÕöä ğäÆÈǦƞ ӯäÆÁǪèä ˉ ɄȞÔöä ÀÄäÅÅʅä ǦÈäÀǩ ӯÆȝş ÛÀÎǦöä äÄƎä òɀÕΣä ÆÈÔơ ȜÅƞş ÛɄΣä ÈŸȮÕÅä şǙ (ǦòÅn̈) ǦÈɸÅǪǪǙ ōÀä ·ǦɸɀǜɀţäĘǜÅÅţä Ž

ǗøɯƐþøDŽǁƐ

Ditrich O., V. Nasincova, T. Scholz, M. Giboda. Larval stages of medically important flukes (*Trematoda*) from Vientiane province, Laos. Part II. Cercariae. *Ann Parasitol Hum Comp* 67(3):75–81, 1992.

Gilman, R.H., G. Mondal, M. Maksud, *et al.* Endemic focus of *Fasciolopsis buski* infection in Bangladesh. *Am J Trop Med Hyg* 31(4):796–802, 1982.

Liu, L.X., K.T. Harinasuta. Liver and intestinal flukes. *Gastroenterol Clin North Am* 25(3):627–636, 1996.

Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases*. Boca Raton: CRC Press; 1980.

Manning, G.S., C. Ratanarat. *Fasciolopsis buski* (Lankester, 1857) in Thailand. *Am J Trop Med Hyg* 19(4):613–619, 1970.

Plaut, A.G., C. Kampanart-Sanyakorn, G.S. Manning. A clinical study of *Fasciolopsis buski* infection in Thailand. *Trans R Soc Trop Med Hyg* 63(4):470–478, 1969.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea and Febiger; 1982.

Waikagul, J. Intestinal fluke infections in Southeast Asia. *Southeast Asian J Trop Med Public Health* 22 Suppl:158–162, 1991.

Zeibig, E.A. *Clinical Parasitology: A Practical Approach*. Philadelphia: W.B. Saunders; 1997.

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## GASTRODISCOIDIASIS DŽƯǦǁƐ ƖƑɪΤþ5 ƅƐq

njþƢǀǙƐ ƕɪŸǸjǳǁƐ ƖƑǦǸjȿƙDŽǁƐ njǸjƐqŸ **ICD-10 B66.8**
**ICD-10 B66.8 Other specified fluke infections**

.Amphistomiasis ƙȽÅɀÅöä ğŸäÅÕǪƞ öäẩ ˙ğÅɀẩäÀţä

*ǦΛÄÎǦöä (ƙΤΛζÁöä ǦΫäÅÕ̆ŋ) ȸÛǦöä ǦŁöÅę* ζŁ ʔşÆĤöä ȻØŁ ÕŋÅʒ ׃ğÅǦǦÊöä ǬÒĭ ğää ǦĤüÅè ʝζŸöä ǦΛåøş ǦäζÕ̆ʒŋ Û*Gastrodiscoides* (*Amphistomum*) *hominis* ÆʒÅÔöä ʝζöζÕöäş øζʒǰä Ž ÌƗĤǩ ·ÅřÄʒ ǇŸŋ 66 – 4ş ǰζü ǇŸŋ 14 – 5 ÈƗÕ̆ǩ ɃÄǯȶõ ·(Soulsby, 1982) ȯζÕΣä ʝäæÄDZş ÈƗφÅÊΛöä ʔÆö ğÆDZş ÅŒǚ ÅȶõÛʝÅÊφqäş ÄΛäÄΛʅä ʔÆö ǇDZĤŋ ąîÄę ʔŸʒ ǴǬÅΛΛ ɄÅŸʅä ŏÅƨä ȸÒö ÕÒÎöä ɄüşÄƯ ɄŸƗÅÛöä ȸŋ ɄŋÅŋǰä ŏÅƨä ÅŋζΛ 17 – 16 ğÆţ ǯÅǬƠş embryonating ÅÆƗDZ ɃζƠ ʝǚ ʝşå ɃζǯÖä ôζƗǦöä øåÅ8ǩ · î Åŋ ·(Neva, 1994) ÈÕ̆Äǩş (ÕÅǬÛöä) ȯşǰä ɄĤÄƗöä øşÆöä ÕÒÎǬö ÿ °34– ÿ °27 ğøäÄǵ ǦDZøå Ž ʒęζę ʔÆö ʔşÆĤöä ɋäÆǵǚ ʔŸʒ ğøåÅę ğŸƗÅÛöä ǨφÅõ ׃ÆΛΤä Ž ğäÄÕä āøÅDZǬöä Ž ·ɄĤƗǦÛöä Ùèζǭţä ɃζǯÖä ζŁ ʝζÒΛ Æę ɃØöä *Helicorbis coenosus* *ğÅöÅΣä* ·ǦΛζǬÊţä ǦĤęζÕ̆ţä ŏÅŘʒǰä ğÅƗǵ ğäøşå ȸŋ ğæζǹüţä ğƎʅä ȸÒö ÛǦζşÄĤŋ Ƙɖ ʒęζÕ̆öä ȸȶȑ øζÛǬöä ÕƗòÅÄǩ ʝǚ şǚ ŸƗDZş ǦƗŘƗæ ÅΛŸǹ ÕÒÎǩ ğŸƗÅÛöä ʝǚ ôäÄǬζɍä ƂǚåζÕ̆ǩ ÅΤÊÅφ ǦΫƗÔÅöä ȸŋ ȸΛÄǹǿä äşƎöÅæ ÛÆǦǩ Ææäşǿöä ʝüζ ÙƗŧä Ž ğøäÄΣä ǦDZøå ʔŸʒ ååÅȶǬʒäş ÛÆæäşæş ğÅΛÆΛÄöä ȸŋ ƙŸƗDZ ğÅǭòÄę ȸŋ ʔÄǹǰä ţäζφɋö ȼæÅÎŋ ÕÒÎæş ·ʔşÆĤöä ȸŋ ÅŋζΛ 152 – 28 ÆĤæ ʒęäζÕöä ȸŋ āÅÔǩ ·ÆφäşØöä ZəŸǹ ƂǚøζÛǬǩş ǦƗəÅţä ğÅǨǦΛöä ʔŸʒ ÅŘΛǚ ÈƗÒǬǩ ÆφäşØöä ʝüζ ȸÛǦöä *ȸÛǦöä ǦŁöÅę* ʝǚ dzÄǬęä Æęş ÛÆφäşØöä ZəŸǹ ţŸǬææ ĘΛÄü ȸʒ ʔşÆĤöÅæ ǦƗəÅΤΛöä ŏÅΛζǭǰä ·ǦÅŸǬƯ ɃøäøÆş āşÅȑ ȸŋ ʝζÒǩ ʝǚ ȸÒƺ ÄΛäÄΛʅäş ʝÅÊφqä Ž *ǦΛÄÎǦöä*

ğÅΛɍş) ÆΛΤä Ž ɄÊƗəø ÕÒÎæ ɄŸƗÅÛöä ŏäÆöä äØŁ ǫÆʒ ׃ǫşÆΣäş ŽäÄ8ƨä ţäζǬöä ƙƗǦŸƗÅöä Ž ÅŘΛǚ ğɍÅǵ ǨŸDZè ȸÒö ÛÌΛåŸ8Åæ Žş (ȯÅ8ΛǦöä āÄɖş ÅÊΛøşǚş øÅΤƗæş ÿÅèǚ ·ÆφŸÅÄǩş øÅȶƗφÅŋş ÅΛÂƗÕÅŋş ÅƗÊƗφşÆφüæ äşÅDZ Ž ǣÅφäζƗǵ Žş ǦΛÆΛΤä ƙÔöä ğÄΛÂDZ ȼǦìş ŽäÄ8ƨä ţäζǬöä ʝζÒΛ Æę ·ÅφÅΛäζɖ Ž åζΛΤä ȸΛÄDZÅΤţä ʔÆö ÅŘΛǚ ɄŸƗÅÛöä ŏäÆöä äØŁ Şǵζö ʔşÆĤöä ğɍÆĤŋ ţζΛǬǩ ·ʝÅǬÊǹäàÅõ Ž ɃÄæ ÄΛÂøÅǹ Ž ɄŸƗÅÛöä ÆDZş Ǭƒǵ ÛʒèşǚǬƗǵ ÆΛΤä Ž ÿÅèǚ ǦΛɍş Ž ʔÄÕöä ʔÆǵǚ Ž ÅȶõÅÆDZ ǦƗöÅʒ ʝζÒǩ ʝǚ ȸÒƺş ÛǦΛÄÎǦöä ɄÅÒΛş ·ǇŁäÄæ Ž ɄŸƗÅÛöä ôζƗæ ǇΤΛÆö ÛȯÅΛüǰä ȸŋ ǇΤȶŢĤŋş ÛʝÅÒÊöä åäÆĤǩ ȸŋ %41 ÆDZş ׃ÆΛΤä Ž ƀÅÊţä ʔÆǵǚ Ž ·ǦÕ̆ÛΛţä ȻØŁ Ž ğǨζş ǨÊƗö ÄΛäÄΛʅä ʝǚ āäÄ8ǬèŸö ʔÆö ÅŘΛǚ ʔşÆĤöä ğÆDZş Åȶõ ·ÅòζĤÅŋ ÅΛΛÂøÅǹ 233 ÕòǚȸŋŠ%27 Ž ɄŸƗÅÛöä

*ōÅÒţå)* ĢĒèζÊÄÀöä ÈĒφÅÊÄöä Ōǯŋ ÅĒèǗ Ž ȷÅÊφqå Ƙɖ ğÅŋƕÖţå ȸŋ ǥǼÄǼɜ ţäζφǗş ôǿäζŌöä *ōÅÒţåş* ^irus^ *ōÅÒţåş ȖøÅĒĢŸÄöä ōÅÒţå)* ĢĒģÅŀÄöä ÈĒφÅÊÄöäş (*Macaca mulatta* *ȖèŸɿå* (*ŷÂɫå ōÅÒţå)* ȡzÅŀƀ âÅÄÊφ [1.201] ʔǼö ʔşǼȞöÅæ ĞæÅöqå ȯǼȞŋ ȷÅõ .(*fascicularis* *ŷÂɫå* ζĒÔöä ĞÄÅŒ Ž ʔŸɜǗ ζȽ ǼȽŦå Ž ÀÄàÅÄɿå ʔǼö ʔşǼȞöÅæ ĞæÅöqå ȯǼȞŋ ȷǗş Ǘ%21.4 ζȽ .(Roy *et al.*, 1992) ȯζŸÄǗş ȷäÄÂģ ɃÀŦì ƙæ Åŋ ȼkşǿæ ŋŸĞÄş ÛζÄÀɿå ĞÄäǼæş

ȷζÒÄ ÅŋǼÄɜ ÙŌζ ÅĢöÅɖ ÅÄÀÄÀè ǥÀȽÅş ʔşǼȞöä ȷζÒǩ .ğÅφäζĒΣäş ȷÅÊφqå Ž ôÀţå ȷζöζŌöä ĢĒùÅƯ Ž ĞŸÞzÊŋ ğɍǼĞǩ ōÅÄȽ ȷζÒǩ Ǽę .ğɍÅΣå ȻǾȽ Ž .ÅĶĞõ ȖŸĒÄÛöä ŌȶΣä .(Strickland, 1991) ȖøφÅùÅƯ ȯÅŦèǗş ȷζöζę āÅŦǪöäş ǿζɜɟäş

Ǫƞģ ÛÄÄÂøÄɿå ζȽ ȖəÅŦÄöä ȖȞĒĢÛöä Ƀζǯöä ȷǗ şǼĢÄ .ȯÅŌǪφɍä äÀùş ʔşǼȞöä ǿǼÔŋ ôǿäζŌöäş ÈĒφÅÊÄöä Ž ȖŸĒÄÛöä ǼǱZş ÅȶõÛʔşǼȞöÅæ ĞæÅöqå ȸŋ ĢĒöÅɜ ğɍǼȞŋ ğǼǱZş ȷÅÊφqå ƙæ ĞĒŌĒŌΣä ĞęŸȞöä ȸÒö .ɃζφÅǯöä ȖəÅŦÄöä Ƀζǯöä ȷÅÊφqå ƎǪȞÄ Åŋζȶɜ .ÅŘÄǗ ğÅĒŸĒÄÛöä ǨφÅõ äæǗ ÅȶĒζ ÅĢĞÄÀθ áǼȞƗ Ɓş Ûȷɇå ʔøǪģ ÅǼĒǱZ ȣÀȞǩ Ɓ ĢĒφäζĒΣä ğÅǽζŌǯţäş ʔşǼɜ ǫşǼģ ȷşá ȷÅÊφqå Ž ʔşǼȞöä ǫǼƠ ǼŦå Ž ĘùÅÄţå ȒȞǽ Ž .ȷÅÊφqå ƂǗ ŌŌǪƙ ŏÅÄζǪɟå ǼÊǪÒÄ .(Malek, 1980) ÅȒÄǗ âζÒȞţå ɜȑζöä Şģζö ÅȶõÛÄÀàÅÄɿå ʔǼö ŏÅţå şǗ ĢəÅţå ğÅǨÅĞÄöä ţŸǪæ ĘÄÀù ȸɜ Åŋǿ – ȖȶȒŦå ŌĢĒÊöä ĘÄÀù ȸɜ ʔşǼȞöä ȷζĒəÅŦÄöä .žÅȞţå Ƙɖş ǼφäşǾöä ζəŸŊ ǫζŸţå

Ğöζŧè ÀǯõǗ ȮÒÎæ şǗ ÛäãƎöä Ž ôζĒĞö ȣÅÎǪõå ʔŸɜ ÒĒÅÎǪöä ǼȶǪȞÄ .ÒĒÅÎǪöä ÒÅÎŸö antihelminthic ĢĒŸĒÄÛöä ȷäǼÄǼöä ğäÅÅȒŋ ŏÅÛɜq ƃÅǪöä ğÅæζŌǯţå ȣäÅȞǪèå ʔŸɜ ôζĒĢö ĞöÅÎŋ (ȷşÀÒĒŋ 70 – 60 × ȷşÀÒĒŋ 170 – 150) *ȸÛĜöä ĢĒöÀę* ôζĒæ ȷǗ .āÅÒţå .(ÅǿäÀȒǹå) ǥÀȒǹ ÀǯõǗş ĘĒɍǗ ÅŦÄÒö *Fasciolopsis buski* *ĢĒÒèζĢöä Ģęǿäζζţå*

ɜŋş ǗĞζşÀȞŋ Ƙɖ ȖŸĒÄÛöä ǥÅĒģ ǥǿşá ȷɟ ĞȞζÅÒŋ ƘäǼǪæ ĢĒöζǪöä ǼȞÔÄ .ĞȞζÅÒţå äζÒŸŦǪÊÄ ɍǗ ĞφζùζŗŦå ĘùÅÄţå Ž ƙÄùÅŌöä îÅÂìɟå ʔŸɜ Ǽƶ ÛȖÔÅÎöä ƙÔȞǪŸǗş ÛŌöæ ȷǘζ ţáζǪÊŗå ȷäζǼΣä ĞɀÅȞŋ ĘÄÀù ȸɜ ĞÄÅęζŸö ĞĢÊÄöÅæş .žÅȞţå Ƙɖ ŏÅţå şǗ ĢəÅţå ğÅǨÅĞÄöä ÅȽøÅÎǪφä ğɍǼȞŋ ʔŸɜǗ ƃǗ ʔşǼȞöä ŌÔǩ ȷǗ ŌĜę ζĒÔöä ζÔǪŋ ζȽ ŌȒÅţå Ǩęζöä .(Roy and Tandon *et al.*, 1992)

ÜøШЄþøDŽllЄ

Dutt, S.C., H.D. Srivastara. The life history of *Gastrodiscoides hominis* (Lewis and McConnel, 1876) Leiper, 1913—the amphistome parasite of man and pig. *J Helminthol* 46(1):35–46, 1972.

Faust, E.C., P.C. Beaver, R.C. Jung. *Animal Agents and Vectors of Human Disease*, 4th ed. Philadelphia: Lea & Febiger; 1975.

Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases*. Boca Raton: CRC Press; 1980.

Neva, F.A. *Basic Clinical Parasitology*, 6th ed. Norwalk, Connecticut: Appleton & Lange; 1994.

Roy, B., V. Tandon. Seasonal prevalence of some zoonotic trematode infections in cattle and pigs in the north-east montane zone in India. *Vet Parasitol* 41(1–2):69–76, 1992.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea & Febiger; 1982.

Strickland, G.T., ed. *Hunter's Tropical Medicine*, 7th ed. Philadelphia: Saunders; 1991.

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## HETEROPHYIASIS ŀƑďƑ2ĭƆ]llЄ ƀЄq]

### njþƆ]ǕЄ ɦĭYNjďllЄ ŀƑĜNjʂƙDŽllЄ njNjЄqY ICD-10 B66.8
### ICD-10 B66.8 Other specified fluke infections

·(ĘĘęÆŏă ʔȞʈă) ĜɸÀÆʅă ʔşåƐ3 ÛHeterophydiasis ğÀɸÀÆʅă ŏăå : ğÀźåăÀʈă

ÛHeterophyidae ğÀÆɸÀÆʅă ĜŸÆÔź ʤɳ ʢğÀæźÕ̆ɳ ʔşÆȞŏă ȻØŁ Ŏɳăź3 : ğÀÆĜĜÊŏă 1980 ȳÀ3 ȲĘŏÀɳ Âɳ Æęş ·ʔÀǹɟă ğÀΛøÀÕÀŏăş ɟÀÊɸɋă ʔȞɳ ʔşÆȞŏÀæ ÆĘÔǩ Ʉøʠŏăşţăźɸɟăɟǚź Ȭŏæ ʔŸ3 ɱåÀʈʠ3ăş ÛʔşÆȞŏÀæ ɟÀÊɸɋă ÆĘÔǩ ɟǚ ʤÔɛ ƁÀȞŏă Ž ţăźɸǚ ǥÀÎ3
*Heterophyes* ĜɸÀÆʅăş *Heterophyes heterophyes* ŏÀÆʅă ĜɸÀÆʅă :ɄŁ Å3źƐ̀ ÀǯŌɟă
*Stellantchasmus* ŏÀʈDŽÀŏăş *Metagonimus yokogawai* ĜÀşÀʠźŌźÆŏă ȮèÀʈă ĜÆÀŸǹş *nocens*
ĜÆÀǺʠʈă :ɄŁ ĜʈəÀÕŏă ȻØŁ ʔŸ3 ǥåźDŽźɳ ǨɸÀÕ ɄøʠŏăʔÀǹɟă ţăźɸɟă ·*flacatus*
*Haplorchis* ĜĘÔʅă ĜÀåÀźş *Cryptocotyle* (*Tocotrema*) *lingua* ĜÆÊŸʈă (ĜȒÁʈʠÊʈă)
ĜÀşÀʠźŌźÆŏă ĜĘÔʅă ĜÀåÀźş *Haplorchis vanissima* ĜĘÔʅă ĜÀåÀźş *calderoni*
ʅÊɜă ĜɸɸDŽş *Haplorchis taichui* ĜÀźÎΛÀʠŏă ĜĘÔʅă ĜÀåÀźş *Haplorchis yokogawai*
ʔÀǹǚ ţăźɸǚ 6 ĜźÀɼŭæ Ɓş ɃÀÎǩ ȳÀę :1991 ȳÀ3 Ž ·*Stamnosoma armatum* ĜȞŸÊʈă

*Centrocestus* [illegible] *Heterophyopsis* [illegible] *Heterophyses dispar* [illegible] *armatus* [illegible] *Pygidiopsis summa*[illegible] *M. takahashii* [illegible] *continua* [illegible] *Metagonimus miyatai* [illegible] *Stictodora fuscatum* [illegible] (Satio *et al.*, 1997) *M. yokogawai* [illegible] (Yu *et al.*, 1997) [illegible] 120[illegible] 3007 [illegible] 5 [illegible] (Chai *et al.*,) 1998 *S. Falcatus* [illegible] 46 *nocens* [illegible] *Pirenella* [illegible] *Melania* [illegible] *Cleopatra* [illegible] *Cerithidea* [illegible] (*Tympanotomus* [illegible] *Semisulcospira* [illegible] *armatus* [illegible] *takahashii* [illegible] *P. summa*[illegible] *nocens* [illegible] (Chai and Lee., 1991) [illegible] *S. fuscatum* [illegible] *S. falcatus* [illegible]

[illegible] 0.4 – 0.3 [illegible] 1.7 – 1 [illegible]

*Cerithidea cingulata* … *Pirenella* … (*Semisulcospira libertina* … rediae …

(*Mugil*) … *Tilapia* …

.*Acanthogbius* … goby

… 0.8 – 0.4 … 2.5 – 1 …

… Hua … *Thiara*

6.000 mullet %65

nocens 1994 (Malek, 1980) .%1 98 %43 nocens

1992، 1984 52.552 (Lee *et al.*, 1994) %1.2 %6 %12 1991 30 68 465 1993 Park *et al.*,) *miyatai* %21 %3.4 1.067 %7.8 1993 (1993 5 %12.8 %3.8 318 %81

[illegible] *S. falcatus* [illegible]

[illegible] %15 [illegible] .(García and Brucjner, 1997) [illegible] .(Chi *etal.*, 1988) [illegible] globet [illegible]

[illegible] 1962 [illegible] SF [illegible] *S. falcatus* [illegible] %99.1 [illegible] *Ethrlichia risticii* [illegible] *E. sennetsu* [illegible] %98.7 [illegible] Potomac [illegible] .(Wen *et al.*, 1996) [illegible] *Neorickettsia helminthoeca* [illegible] .(Sonlsby, 1982) *Nanophyetus salmincola* [illegible]

[illegible]

[illegible] critical [illegible]

[illegible] Zeilbig,) [illegible] Opisthorchis [illegible] Clonorchis [illegible] (1997 [illegible] %35 [illegible] %10 [illegible] .(Hassan *et al.*, 1989) [illegible]

[illegible]

## ÜøШƐþøĎǁƐ


Ahn, Y.K. [Intestinal flukes of genus *Metagonimus* and their second intermediate hosts in Kangwon-do]. *Korean J Parasitol* 31:331–340, 1993.

Chai, J.Y., S.H. Lee. Intestinal trematodes infecting humans in Korea. *Southeast Asian J Trop Med Public Health* 22 Suppl:163–170, 1991.

Chai, J.Y., H.K. Nam, J. Kook, S.H. Lee. The first discovery of an endemic focus of *Heterophyes nocens* (Heterophyidae) infection in Korea. *Korean J Parasitol* 32:157–161, 1994.

Chai, J.Y., T.E. Song, E.T. Han, *et al*. Two endemic foci of heterophyids and other intestinal fluke infections in southern and western coastal areas in Korea. *Korean J Parasitol* 36:155–161, 1998.

Chi, J.G., C.W. Kim, J.R. Kim, S.T. Hong, S.H. Lee. Intestinal pathology in human metagonimiasis with ultrastructural observations of parasites. *J Korean Med Sci* 3:171–177, 1988.

Ditrich, O., M. Giboda, T. Scholz, S.A. Beer. Comparative morphology of eggs of the Haplorchiinae (Trematoda: Heterophyidae) and some other medically important heterophyid and opisthorchiid flukes. *Folia Parasitol (Praha)* 39:123–132, 1992.

Garcia, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Hassan, M.M., A.M. Farghaly, R.L. el-Gamal, A.M. el-Ridi. Cross-reactions in immunodiagnosis of patients infected with *Schistosoma*, *Fasciola* and *Heterophyes* using ELISA. *J Egypt Soc Parasitol* 19(2 Suppl):845–851, 1989.

Hong, S.J., C.K. Chung, D.H. Lee, H.C. Woo. One human case of natural infection by *Heterophyopsis continua* and three other species of intestinal trematodes. *Korean J Parasitol* 34:87–89, 1996.

Lee, S.K., B.M. Shin, N.S. Chung, J.Y. Chai, S.H. Lee. [Second report on intestinal parasites among the patients of Seoul Paik Hospital, 1984–1992]. *Korean J Parasitol* 32:27–33, 1994.

Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases*. Boca Raton: CRC Press; 1980.

Park, M.S., S.W. Kim, Y.S. Yang, *et al*. Intestinal parasite infections in the inhabitants along the Hantan River, Chorwon-Gun. *Korean J Parasitol* 31:375–378, 1993.

Saito, S., J.Y. Chai, K.H. Kim, S.H. Lee, H.J. Rim. *Metagonimus miyatai* sp. nov. (Digenea: Heterophyidae), a new intestinal trematode transmitted by freshwater fish in Japan and Korea. *Korean J Parasitol* 35:223–232, 1997.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea & Febiger; 1982.

Yu, J.R., J.S. Chung, J.Y Chai. Different RAPD patterns between *Metagonimus yokogawai* and *Metagonimus Miyata* type. *Korean J Parasitol* 35:295–298, 1977.

Wen, B., Y. Rikihisa, S. Yamamoto, N. Kawabata, P.A. Fuerst. Characterization of the SF agent, an *Ehrlichia* sp. isolated from the fluke *Stellantchasmus falcatus*, by 16S rRNA base sequence, serological, and morphological analyses. *Int J Syst Bacteriol* 46:149–154, 1996.

Zeibig, E.A. *Clinical Parasitology: A Practical Approach*. Philadelphia: Saunders; 1997.

# NANOPHYETIASIS [illegible]

[illegible] ICD-10 B66.8
**ICD-10 B66.8 Other specified fluke infections**

[illegible] Elokomin [illegible] (*Troglotrema* [illegible]) [illegible] Nunophyetus salmincola [illegible] *N. salmincola salmincola* [illegible] *N. salmincola schikhobalowi* [illegible]

[illegible] 32 [illegible] (0.5 – 0.3 × [illegible] 2.5 – 0.8) [illegible] *Goniobasis* [illegible] .Pleuroceridae [illegible] *O.silicula* [illegible] *Silicula* [illegible] *Oxytrema plicifer, juga* [illegible] plicifera [illegible] *Juga* [illegible] *S. laevigata* [illegible] Semisulcospira cancellata [illegible] .(Besprozvannykj, 1994) [illegible] ...*Onchorhynchus, Salmo, Salvelinus*) .(Soulsby, 1982) ([illegible] Lampreys, Cyprinidae, Cottidae) [illegible] 200 – 87

[illegible] 0.11 [illegible] 11 [illegible] 10 [illegible] 0.25 [illegible] 5 [illegible] 8 [illegible] 5 [illegible]

[illegible] .(Fritsche *et al.*, 1989) 1989 [illegible] *Schikhobalowi* [illegible] .%98 [illegible] *Oxytrema silicula* [illegible]

[illegible] 1989 [illegible] .(Fang *et al.*, 1991) [illegible] Harrell and) [illegible] .(Deardorff , 1992

[illegible] *Schikhobulowi* [illegible] (%43) [illegible] 500 [illegible] .(%16) [illegible] (%16) [illegible] (%32) [illegible]

[illegible] Neorickettsia helminthoeca [illegible]

[illegible] 7 [illegible] 5 [illegible]

[illegible] 10 [illegible] 7 [illegible] %90 [illegible]

[illegible] Elokominia [illegible]

[illegible] %10 [illegible]

[illegible] Schikhobalowi [illegible]

[illegible] 24 [illegible]

[illegible] .(Millemann and knapp, 1970) [illegible]

[illegible] .(Harrell and Deardorff, 1990)

[illegible]

[illegible] 55 – 35 × 97 – 87 [illegible]

[illegible] 165 [illegible] °3 [illegible]

[illegible]


Besprozvannykh, V.V. [The epizootiological problems of trematodiases in the Maritime Territory]. *Med Parazitol (Mosk)* 3:28–31, 1994.

Fang, G., V. Araujo, R.L. Guerrant. Enteric infections associated with exposure to animals or animal products. *Infect Dis Clin North Am* 5:681–701, 1991.

Fritsche, T.R., R.L. Eastburn, L.H. Wiggins, C.A. Terhune, Jr. Praziquantel for treatment of human *Nanophyetus salmincola (Troglotrema salmincola)* infection. *J Infect Dis* 160(5):896–899, 1989.

Harrell, L.W., T.L. Deardorff. Human nanophyetiasis: Transmission by handling naturally infected coho salmon (*Oncorhynchus kisutch*). *J Infect Dis* 161(1):146–148, 1990.

Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases*. Boca Raton: CRC Press; 1980.

Millemann, R.E., S.E. Knapp. Biology of *Nanophyetus salmincola* and "salmon poisoning" disease. *Adv Parasitol* 8:1–41, 1970.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea & Febiger; 1982.


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## OPISTHORCHIASIS [illegible]

**ICD-10 B66.0**

*opisthorchis viverrini* [illegible] *Opisthorchis*) [illegible] *Amphimeras Pseudafelineus* [illegible] *O. felineus* [illegible] *guuyaquilensis* [illegible] *Clonorchis* [illegible] *Opisthorchis* [illegible] *Felineus* [illegible] *viverrini* [illegible] (Clonorchiasis [illegible] 2.5 – 1.5 × [illegible] 12 – 7 [illegible]

[illegible] (Adam *et al.*, 1995) [illegible] *Bithynia siamensis* [illegible] *B. laevis* [illegible] *B.* (*Digoniostoma*) *Funniculata* [illegible] *B. s. siamensis* [illegible] *goniomphalus*

[illegible] 280 [illegible] *Hampala* [illegible] *Cyclocheilicthys* [illegible] (*Felis viverrina*) civet [illegible] *Puntius* [illegible] 20 [illegible]

[illegible] *Felineus* [illegible] *B. tentaculata* [illegible] *infata* [illegible] (*Bulimus* [illegible]) *Bithyania leachi* [illegible] *Leuciscus* [illegible] *Blicca* [illegible] *Barbus* [illegible] *Tinca* [illegible]

[illegible] 2 [illegible] 4 *A. pseudofelineus* [illegible] (*Canis latrans*) [illegible]

[illegible] .(Khamboonruang *et al.,* 1997) [illegible] 8 [illegible] 3.5 [illegible] (Bunnag and Harinasuta, 1984) 1981 [illegible] 4.5 [illegible] 1965 [illegible] *viverrini* .(Lonharanu and Sornmani, 1991) 1991 [illegible] 7 – 6 [illegible]

[illegible] 1981 [illegible] %87 – %72 [illegible] %35 [illegible] 1988 [illegible] Jongsuksuntigal and) [illegible] %56 [illegible] %5 [illegible] %18.5 [illegible] .(Imsomboon, 1997

[illegible] %90 [illegible] %36 [illegible] *B. s. goniomphalus* [illegible] %0.5 [illegible] %0.6 [illegible] 7 [illegible] .(Giboda *et al.,* 1991) [illegible] %66 [illegible] 128 [illegible] %37.5 [illegible] .(Kobayashi *et al.,* 1996)

[illegible]

%90 ... %100 ... %83 ...

%100 ...

...

...

%30 ... %10 ... 1991 ... 1986 ...

.(Tsybina, 1994) ... %73 ... %12 ... *Codiella* ... %0.2

... *A. pseudofelineus* ...

... *guayaquilensis*

... 245 ... %7.3 ...

... %32 ... %4 ...

... 100 ... 3

... 80 ...

(Artigas and Pérez, 1962) ...

... 1988 ...

...

... pericholangitis ...

...

...

...

...

... .(Riganti *et al.*, 1989) ...

...

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ǼǤÒǒǟ ǦŋÀ̉Å ȑş ţǟǼǒş ȸŁşş ȯǼǬȟŋ ȷÅęÀş ȸÛǦǒǟ ŌǦÛǩş ȯÀŢèǗş ʔȹ ʒŋ ǦÛèʐǬţǟ ǵǼÎǒǟ ǦÀŋÂţǟ ğɍÀΣǟ Ž ɃşǟÀÀǒ ǻʐǬǿş ɄÒǬÀÒǬŋ ǻǟǼÊǟ ϙǼʒ Ǽę ·ȯÀȟÛŸǒ ŌȟÀÀŋ ȷÀǬǵǟş ǦÀşǟÀÀÔǒǟ ǦǼęɉǟ āÀŢǬǒǟ ʒŋ ǦÀʐǬÀǬ ʔşǟǼʒ ƂÜ ǦʐÀ̉ȑqÀǟ ƘǤõ ɄŸǼÀü Ōȹ ʒŋ ǦŌʐǟÀǬţǟ şÂɖ ǨȒÀÜ ϙǼʒ Ǽę ·ǦǼǬÀǼʒş ǦÀÀŢƒ ğÀDZǟÀǹ ŌÒÎǩş ǼǤÒǒǟş ǦÀşǟÀÀÔǒǟ ǦǼęɉǟ āÀŢǬǒǟş ·ǨŁǼÊDZ ɄŸǼÀÛǒǟ ǒǟǼǒǟ ȷʐÒÀ ÀŋǼÀʒ ǦǭèÀÀÀÒÀǤǒǟ ğǟʐÀŌŸǒ ƃÀøǬ āÀŢǬŸǒ ɃǻüÀ âÀÀÀÒÀǤŸǒ ǼŌǬȟţǟ ȸŋ ·ɄùÀÛǵ ɄŋÀȹ ǴÀü ƂÜ *ƁÀŢǟ ǦÔ1ǎ Àǹüǭ* ȸʒ ǦƤÀÀǒǟ ʔşǟǼȟǒǟ ɃǻüÀ Àŋ ǨǤǒÀɖ ȧÀÛǒǟ ğÀǬÀüÀè ǨǒʐÔǹş ǼǤÒǒǟ ğÀǬÀüÀè øʐÛǩ Ž ǨøşǻǼ ǼȞŸǩ *ǦÔ1ǎ ğǟÀǹüǭ* ȷÜ Ž ȷÀüÀÊǒǟ ȸŋ ÙţÀǒǟ ǟØŁş ʔşǼȟǒǟ Ƙǟ ǦŌǬş ǦęŸʒ ǻʐDZş ǵǼŁÀÎŋ ȴɖøş ·ǦÀşǟÀÀÔǒǟ ȷşǻ ȷÀüÀÊǒǟ øÀÎǬɍ ǦǼǒÀʒ ğɍǼȟŋ ğǟǽ ǨȒÀÜ ĘüÀÀŋ ǼDZʐǩ ȼǬüʐ ÛɄŸǼÀÛǒÀǟ ǦǬʐüʐţǟ ĘüÀÀţǟ .(Sinawat *et al.*, 1991; Holzinger *et al.*, 1999) ɄŸǼÀÛǒǟ ǻʐDZş

ȋÀÅ̀ȋɍǟ Ž ŌęÜ ɄŸǼÀÛǒǟ ǻǟǼȑÜ ğÀʐǬÊŋ ǨǬÀõ ·ǦǬʐüʐŋ ǦŌÛÀŋ Ž ǨÀÀDZÜ ǦèǟøǻŽ ÛôʐǤǒǟ ǟʐǵÀÛÀ Ƀ ȸÀØǒǟ ȋÀÅ̀ȋȷǟ ʒŋ ǦǬøÀŌŋ ǈŁǟǟÀǟ Ž ɄŸǼÀÛǒǟ ôʐǤǟ ğǼDZş ȸÀØǒǟ Û(Akai *et al.*, 1994) ǦÀÔŢ ǦʒÀÀŋ ȷǬÀǩ ʔşǼȟǒǟ ǟØŁ ȷÜ ʔŸʒ ǦǼÀǟ ȼǬÜ ʔŸʒ ƵÎÒǒǟ ǟØŁ ÀĘʐ ǦǬǟÀǬ ǴǤÔǩ ǼǤÒǒǟ Ž ğǼŸǼÀÛǒǟ ǻǼʒş ǟǟƎǒǟ ğÀǼʒ Ž ôʐǤǒǟ ǻǼʒş øÀÎǬɍǟ ȯǼȟŋ ȸÒǒ Ǽę Àţõ ÛÀţȟǒÀǟ ȳǼŌǬǒǟ ʒŋ ÀŢȑÀÀŸǟ ȸŋ ɍǼǟ (Sithithaworn *et al.*, 1991) Ƙ8ǒÀǤǒǟ ʔǼǒ ·ǦÀÔŢ ǦʒÀÀŋ ğǼDZş ǟǼÜ ϙǼʒ ȷÜ ʒęʐǬÀ

ȸʒ ȸÀǼȟÀŋ ʔÀǹɉǟ ǦǟÀŢÀǒǟ ǒÀʐǭɉǟş ȷÀÊǬqǟ ǴǤÔÀ ·ȯÀŌǬɍǟ ǟÀüş ʔşǼȟǒǟ øǼÔŋ ϙǼʒ ·ǼǬǟşØǒǟ ƵǝŸǹ ʔŸʒ ɃşÀΣǟş ǨǼDZ ȹʐǤÛţǟ Ƙɖ şÜ ǒɄøÀǒǟ ŌţÊǒǟ ȯşÀǩ ĘÀÀü ƵÀÒǟş ǦţǝŸţǟ ǦÛèʐǬţǟ ǒÀʐǭɉǟ ǼDZǟʐǩ ȯÀǵ Ž ÙŌʐ ȷÀÊǬqǟ Ž ǦÔ1ǟ ğǟÀǹüǬ ǒǟǻ ğǼDZş ·ʔÀǹÜ ĘüÀŋ ƂÜ ɄŸǼÀÛǒǟ ȷşǼȟÀţǟ ȷşÀʐÀÊţǟ ŌţʒǼ Ǽę ȸÒǒ ·ÈţÎǒǟ ǦȟȋüǞ ·ʔÀǹɉǟ ǦʐǼèǿǟ ȷǟǼŸǤǒǟ Ž ƘÀǼǬŸÀǬǒǟ ȯÀţȟǒǟ Ƙǟ ʔşǼȟǒÀǟ ǦǟÀǒqǟ ȸŋ ǦǒǟʒÀ ğɍǼȟŋ ʔşǟǼʒ ȸŋ %0.6 øÀÎǬǟ ǦǤÊǬ ǻʐDZş ǵǼȟǬţǟ ğÀɍʐǒǟ Ž 1987 ȳÀʒ ǨÀÀDZÜ ǦèǟøǻƘÀÎõ .(Kappus *et al.*, 1991) ǟǟƎǒǟ ğÀǒʐȟʐ ȸŋ 216.275 Ž *ǦÔ1ǟ ţÀǬʐş ǦÔ1ǟ Àǹüǭ* ĘüÀÀţǟ Ž ɄŸǼÀÛǒǟ ǵÀǵ ǵøşǻ ʔŸʒ ûÀÀΣǟ ȸʒ ɄÊǼǟǒǟ ȯşüÊţǟ ʐŁ ȷÀÊǬqǟ ȷÜ ǼŌǬȟÀ

[illegible] *Tinca tinca*، *Idus melanotus* [illegible] *T. vulgaris*، *Puntius* [illegible]، *Hampala dispur*، *Cyclocheilicthys siaja* [illegible] %74 [illegible] %51 [illegible] *orphoides* [illegible].

[illegible] %85 [illegible].

[illegible] (1.2814 [illegible] (Harnnoi *et al.*, 1998) (1.4) [illegible] ELISA) [illegible] (%92 [illegible] %91) [illegible] %80 [illegible] %70 [illegible].

[illegible] *Blastocystis* [illegible] *Ascaris lumbricoides* [illegible] *Paragonimus heterotremus* [illegible] *hominis* [illegible] *Schistosoma spp* [illegible] *Plasmodium spp* [illegible] *Taenia spp* [illegible] *Strongyloides stercoralis* [illegible]

[illegible] *Trichuris trichiura* [illegible] *Trichinella spiralis* [illegible] .(Sakolvaree *et al.*, 1997) yeasts [illegible] ancylostomes [illegible] .(Sirisinha *et al.*, 1995) [illegible]

[illegible] %60 [illegible] 7 – 6 [illegible] 65 [illegible] 60 – 15 19.4 [illegible] .(Loaharanu and Sornmuni, 1991) [illegible]

[illegible] Jongsuksuntigul and) [illegible] .(Imsomboon, 1998 [illegible]

[illegible] 1981 [illegible] %35 [illegible] Jongsuksuntigul and) %56 [illegible] %5 [illegible] 1991 [illegible] %18.5 [illegible] (Imsomboon, 1997 %7 [illegible] %14 [illegible] %42 [illegible] 1994 – 1990 [illegible]

ŌǭŌǩ ɹȿå Āŋȿ ȳ °10– ǥøāÀΣā ğĀDZøå ·ȯĀĦʐ ŌȶÊőā ɄȾù ·ɄÔÁÎőā ƙÔĦǭŸő ǦĢÊĀőĀæ ĀőĀơ %15 ȿǚ %10 ȿǚ %5 ÂĿÕāĀǬőā ğāæ ǦĿĦȘŸʈā ŌĿőĀǂāȿ ÛȳĀǚ 5 ȯŸǹ ÆȹāȿØőā ʐəŸǹ Ž ȓʐǦÎőā ŏĀƧǚ ǦȹĀȒǵ ɹǚ âȿĀőā ɹʐǯǵĀǦőā Āȩǚ ·ĀőʐȩÆÊǵ Ōőāȿ (ȳĀǚ 3 Бǚ 10) ȯŸǹ ƎǭĦŋ ŌȮÎā ÆĂĀĂ ĀȾĦȘĿŸǭ ŌǦȩ ğĀȝĀè 4 ǥÆʈ (ȯÂøĀʈĀæ ÆĦʈā Ōʅā) %6 ŌĿǭèɟā Ȑþ ȝĿĦÎǩ ĀȒĂǚ dzĀǬȩā Æȩȿ ·ǺĀȾā ǦĨÔʅā ĀǹĀǭŋ ǦőĀʅā ÆȹāȿØőā ʐəŸǹ ŌǭȩȝŸȝ ǴŸʈā ǥøÆȩ ɹǚ ɹȿå ÆȹāȿØőā ÆĂĀơ Ž ǦőĀĦʐ ĀŒǚ ǨǦǭǚ ɄøǭŌāȿ 0.1 kGy øæ øÆŌǩ ǦĦÎŋ ǦȝĀƛ ŌȶÊőā Loaharanu and) ȳĀĦÛŸő (organoleptic) âāʐĦŸő ǦȾǦĂʈā ǦĂʐȒĦőā îāʐʅā ɁŸȝ ĀǭǘǩɁȿÆĦőĀæ āĀÔĂȿ åʐĦĂ Āŋ ĀǦőĀɖ ɹĀÊȹqā ɹǚ øĀǦǬȝĀæȿ ÛɁĀǹǚ ǦȾDZ ȸŋȿ ·(Sornmani 1991 øāæǚ ĀȾì ȯŸǹ ɁÛĦǩ ɹǚ Æƶ ǦƨĀĦʈā ɹǚ Бǚ 1994 ȳĀȝ ÂøÆĿ øĀìǚ ÆŌʐ ÛǦƨĀĦʈā ÆĦæ ĀǦĂĀȩ ·ĀĂĀ8őǚ ɁȿÆĦőĀæ ǦæĀőqā øĀÛǭǹā ɹʐŌĂ ǬĿǵ (âøĀŋ)

## ÜøɯɛþøDZɪɛ


Adam, R., H. Arnold, E. Hinz, V. Storch. Morphology and ultrastructure of the redia and pre-emergent cercaria of *Opisthorchis viverrini* (Trematoda: Digenea) in the intermediate host *Bithynia siamensis goniomphalus* (Prosobranchia: Bithyniidae). *Appl Parasitol* 36:136–154, 1995.

Akai, P.S., S. Pungpak, V. Kitikoon, D. Bunnag, A.D. Befus. Possible protective immunity in human opisthorchiasis. *Parasite Immunol* 16:279–288, 1994.

Artigas, P. de T., M.D. Pérez. Considerações sôbre *Opisthorchis pricei*, Foster, 1939, *O. guayaquilensis*, Rodrigues, Gómez e Montalván, 1949, e *O. pseudofelineus*, Ward, 1901. Descrição de *Amphimerus pseudofelineus minutus* n. sub. sp. *Mem Inst Butantan* 30:157–166, 1962.

Bunnag, D., T. Harinasuta. Opisthorchiasis, clonorchiasis and paragonimiasis. *In:* Warren, K.S., A.A.F. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Giboda, M., O. Ditrich, T. Scholz, T. Viengsay, S. Bouaphanh. Current status of food-borne parasitic zoonoses in Laos. *Southeast Asian J Trop Med Public Health* 22 Suppl:56–61, 1991.

Harinasuta, T., A. Wijit, N. Morakote, V. Pipitgool, W. Maleewong. Specific gravity of *Opisthorchis viverrini* eggs. *J Helminthol* 72:359–361, 1998.

Hinz, E., S. Saowakontha, V. Pipitgool. Opisthorchiasis control in northeast Thailand: Proposal for a new approach. *Appl Parasitol* 35:118–124, 1994.

Holzinger, F., K. Z'graggen, M.W. Buchler. Mechanisms of biliary carcinogenesis: A pathogenetic multi-stage cascade towards cholangiocarcinoma. *Ann Oncol* 10 Suppl 4:122–126, 1999.

Jongsuksuntigul, P., T. Imsomboon. The impact of a decade long opisthorchiasis control program in northeastern Thailand. *Southeast Asian J Trop Med Public Health* 28:551–557, 1997.

Jongsuksuntigul, P., T. Imsomboon. Epidemiology of opisthorchiasis and national control program in Thailand. *Southeast Asian J Trop Med Public Health* 29:327–332, 1998.

Kappus, K.K., D.D. Juranek, J.M. Roberts. Results of testing for intestinal parasites by state diagnostic laboratories, United States, 1987. *MMWR CDC Surveill Summ* 40:25–45, 1991.

Khamboonruang, C., R. Keawvichit, K. Wongworapat, *et al.* Application of hazard analysis critical control point (HACCP) as a possible control measure for *Opisthorchis viverrini* infection in cultured carp (*Puntius gonionotus*). *Southeast Asian J Trop Med Public Health* 28 Suppl 1:65–72, 1997.

Kobayashi, J., B. Vannachone, A. Xeutvongsa, *et al.* Prevalence of intestinal parasitic infection among children in two villages in Lao PDR. *Southeast Asian J Trop Med Public Health* 27:562–565, 1996.

Loaharanu, P., S. Sornmani. Preliminary estimates of economic impact of liver fluke infection in Thailand and the feasibility of irradiation as a control measure. *Southeast Asian J Trop Med Public Health* 22 Suppl:384–390, 1991.

Riganti, M., S. Pungpak, B. Punpoowong, D. Bunnag, T. Harinasuta. Human pathology of *Opisthorchis viverrini* infection: A comparison of adults and children. *Southeast Asian J Trop Med Public Health* 20:95–100, 1989.

Sakolvaree, Y., L. Ibáñez, W. Chaicumpa. Parasites elicited cross-reacting antibodies to *Opisthorchis viverrini*. *Asian Pac J Allergy Immunol* 15:115–122, 1997.

Sinawat, P., V. Hemsrichart. A histopathologic study of 61 cases of peripheral intrahepatic cholangiocarcinoma. *J Med Assoc Thai* 74:448–453, 1991.

Sirisinha, S., R. Chawengkirttikul, M.R. Haswell-Elkins, *et al.* Evaluation of a monoclonal antibody-based enzyme linked immunosorbent assay for the diagnosis of *Opisthorchis viverrini* infection in an endemic area. *Am J Trop Med Hyg* 52:521–524, 1995.

Sithithaworn, P., S. Tesana, V. Pipitgool, *et al.* Quantitative post-mortem study of *Opisthorchis viverrini* in man in north-east Thailand. *Trans R Soc Trop Med Hyg* 85:765–768, 1991.

Tsybina, T.N. [The ecological-epidemiological characteristics of opisthorchiasis in Sverdlovsk Province]. *Med Parazitol (Mosk)* 3:45–50, 1994.

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## PARAGONIMIASIS üƨƑǖĎǅǁ ǀƑǏǦǆƑШ ƅƐƣ

**ICD-10 B66.4**

ǦƤĬĀŏă ʔşǼȞŏă ǦĀǯəÀŏă ǦǣǯǬǯţă ô Àŋ ȸüǯǪţă ӯǼŏă ǬĀφ ɃǯəÀŏă ğĀǣǯǬǯţă ŏăấ ˙ğĀǯấăÀţă .*Parogonimus* *ǑèĬĀţă ǦĒǤǬĬǱ* ţǯφ ȸ3

*ȼĕĬǯǿş* ƘŸă ǿĬìǛ ·*ǑèĬĀţă ǦĒǤǬĬǱ* ÈĀǱ ȸŋ ğĀǣǯǬǯţă ȸ3 ô Àţă ăǾŁ ʅǱǅĀ ˙ğĀĒǦÊŏă ǨÊĒŏ ȼφǚ ʅɖǿ ǙÈĀƨă ăǾŁ ȸŋ Ă3ǯφ 50 ấǯǱş ƂǛ ǦŸΦĀţă ğĀǶǱăÀţă ʔǼǵǚ Ž (1999) ˙ȷĀÊφqă ʔǼŏ *ǑèĬĀţă ǦĒǤǬĬǱ* ȸŋ ǦĒăĀǪŏă ǦǶÊǪŏă ţăǯφɉă ǨŸǱzè ·valid ǦęşǼÔŋ ĀŦŸõ

1. [illegible] 1976 [illegible]
2. [illegible] *P. heterotremus* [illegible] 1970 [illegible]
3. [illegible] *P. kellicotti* [illegible] 1986 [illegible] canids [illegible]
4. [illegible] *P. mexicanus* [illegible] (*P. ecuadoriensis* [illegible] *P. peruvianus* [illegible] marsupials [illegible] 1983 [illegible]
5. [illegible] *P. miyazakii* [illegible] 1992 [illegible]
6. [illegible] *P. ohirai* [illegible] 1988 [illegible]
7. [illegible] *P. skrjabini* [illegible] 1975 [illegible]
8. [illegible] *P. uterobilateralis* [illegible] 1973 [illegible]
9. [illegible] *P. westermani* [illegible] (*P. philippinensis* [illegible]

ÅĒĢÅÅΘş ÛÒÒÎöā ĞÅāǯöāş ÒÒÎöā ĞĒDZÅDZÆöā øǯĒÛöāş ô øāǯŐöāş ÅÅäÅÅʅāş ĞÅDZāÆöāş ĞÅƎöā
·ÆφāøɟĀ

3ŋ ÅȚǪõøÅÎŋ ÅĒǫ Źş ÛĘāÅÊöā ȷÅŐöā ȸŋ ğÅÅĒǪÊöā Ž ţāǯφɟā ĈǾŁ ʅȚȞŋ ǨÅòş ǯŁ ȘǵŸţā ŏÅǯǪèŗā ·ğÅĒȞÊǪöā Ž ǥÆǵāş ĞöÅǵ Žş ÛğÅĒφÅȶǯöāş ğÅĒȞĢÊöā ØÅŋ ȷÅÊφɋā ĞÖĒŐǵ ȷÜ ·1880 ӯÅʒ ɃÅÎā ɄŸĒÅù ÅŒÜ ɁŸʒ ÅŁÂĒǫ Ź ɄøǪöā *ĞĒφÅŋÅǪÊÅā ŎèÅÅţā ĞĒĢφÅDZ* ȸʒ ğÅŋǯŸȞţā ʅȚȞŋ ȷǯÒǩ āæÅţ Ǵŗǯǩş ʅȚʒɟā ÅŁÅǯāǯǩ ÈÒȞǩ ĒĀDZ ÅÒĢŋ ǨÅÎǪõā ÅŒǯõ ƂÅȞöā ÅŁøÅÎǪφāş 3èāǯöā ÅȚʒäǯǩ ÆĢÊÅş ·ţǯÅöā āØŁ ƂÜ ĶÎǩ *ɃÅÎĢā ŎèÅÅţā ğÅĒĢφÅDZ* ŏāá ĞȞÔö ĞĒƵÜ ÅǯõɟĀ *ŎèÅÅţā ĞĒĢφÅDZ* ţǯφ *ĞĒφÅŋÅǪÊÅā ŎèÅÅţā ĞĒĢφÅDZ* ƎǪȞǩ ĞşǯȞŸţā ÅȚǪĒŗāÅŋÛş ŎęÜ ĀÅǩāǯǪæ *ĞĒÒĒÊÒţā ŎèÅÅţā ĞĒĢφÅDZ* ǪöÅǯöā ÂõÅţā Žş *ĞĢęÅǯǪţā ŎèÅÅţā ĞĒĢφÅDZ* ÅȚĒŸÅ ÛȷÅÊφɋā ÜĞĒƵɟā ÈÅφ ÅȚ ȷÜ ɁŸʒ ʅĒǪĪ ʅţāǯφÜ ȯāÂǩ Åŋ ȸÒö Ü(García and Bruckner, 1997) Åŋ Āʒǯφ ȷÅÊφɋā ɁÆö *ŎèÅÅţā ğÅĒĢφÅDZ* ȸŋ ţāǯφÜ ĞȞāøÜ ĞĒāÅ8öā ÅĒŐÅÅǯÜ Ž ĞǯÅÆǵ Ğèāøá ğÆDZş ĀŸǯŋ *ŎèÅÅţā ĞĒĢφÅɞ* ȼāÅÎŋ ǯæǯɏş *ƙĢφÅɞā ĞĒƥÅöā ŎèÅÅţā ĞĒĢφÅDZş ÛĞĒŐÅǯɋā ŎèÅÅţā ĞĒĢφÅDZ* ɄŁş *Euparagonimus* *ĞĒŐĒŐΣā ŎèÅÅţā ĞĒĢφÅDZ* ÈÅDZ ȸŋ ÂĒư Ƙȡ ţǯφ ÅŐāÅèş *ĞĒφÅŋÅǪÊÅā* Ğ8ĒÔöā ĞĒǪŸǪş ĞĒφÅÅÅĤŗ ȯÅÒìÜ ğÆŁǯì ·Ōöæ ȸŋ ÅǯõÜ Ōæ ·(Cabaret *et al.*, 1999) Āʒǯφ ÒÒÎǩ ǨφÅõ āæÜ ÅȶĒǯ ÆȞā áÆȞǪÅ Ɓş ÛÅèÜ Ž *ĞĒφÅŋÅǪÊÅā ŎèÅÅţā ĞĒĢφÅDZ* ȸŋ ĞĒ8ĢÔöā ţāǯφÜ ȸȶŗ ƙǪÅǯ áǯDZş DNA ÅφÆöā ĞĒāǯǪŋ ŌĒŸƠ ÅȚşÜ ĀƘǹÜ ·(Bliar *et al.*, 1999) ĞÅŸǪƯ ÅÅøǯõ ĞÅøǯȚƤş ȷÅāÅĒöāş ƙÔöā Ž ÆDZāǯǪǩ ĞĒęÅì ĞĒöÅɜ Ƃşɟā ·*ĞĒφÅŋÅǪÊÅā ŎèÅÅţā ĞĒĢφÅDZ*
·(Bliar *et al.*,) 1997 ÆφŸÅÅǩş ƙĢŸĒÅöāş ÅÅÂĒöÅŋ Ž ÆDZāǯǪǩ ĞĒāǯÅDZ ĞĒφÅǯöāş ÛȷāǯÅÅǩş

ÈĒŐǩ ÒÒÎöā ĞÅǯȒĒā ǥÅȶȞŸö āøÅŗ ɄøÅā ȷǯö ğāæ ğÅĒŸĒÅù *ŎèÅÅţā ĞĒĢφÅDZ ğÅāǯŐǯţā* Ƀǯǯöā ɄøǪəø Ž ȸÒÊǩ ÛĞφÅÅǫ ʅŸŋ 5 – 2ş Āŗǯù ʅŸŋ 16 – 7ş Āŗʒ ʅŸŋ 8 – 4 ƂāǯǴ crab ȓǯĢì ǯŁ ɄøφÅǯöāş 3ęǯę ǯŁ ȯşɟā ·ƙÛèǯǪŋ ƙÅǯǫ ƂÜ ÅŁøǯÛǩ ǥøşá ǯÅǪƠ ·ɄəÅȚÅöā ɁÅǹɟā ğÅĒÅÆǯöāş ȷÅÊφɋā ȸŋ Ōõ ƎǪȞÅ·ʅəŸţā āØȞöā ŏÅţā crayfish ȷÅùÅè şÜ āØȞöā ŏÅţā ·ÅőÅəø Ž ɄŸĒÅÛöā ɃşǘĀ ǪĒǵ ĞĒəÅȚÅöā ŏÅÅǯǪɟā ɄŁ ¯ʅǵāǯŸöā ĞöÅǹ¯

[illegible] 2.000 [illegible] 1.000 [illegible] 3 [illegible] *Melanopides* [illegible] *Brotia* [illegible] *Neotricula* [illegible] *Oncomelania* [illegible] *Tricula*

[illegible] *Aroapyrgus* [illegible] *Oncomelania* [illegible] pedogensis [illegible] 13 – 9 [illegible] *Cambaroides* [illegible] *Eriocheir* [illegible] *Ceylonthelphusa* [illegible] *Candidiopotamon* [illegible] *Isolapotamon* [illegible] *Huananpotamon* [illegible] *Geothelphusa* [illegible] *Oziothelphusa* [illegible] *Malayapotamon* [illegible] *Marcobrachium* [illegible] Potamon [illegible] *Potamiscus* [illegible] *Parathelphusa* [illegible] *Parapotamon* [illegible] *Sundathelphusa* [illegible] *Sinopotamon* [illegible] *Siamthelphusa* [illegible] *Procambarus* [illegible] *Esanthelphusa* [illegible] *Varuna* [illegible]

[illegible] *Siamthelphusa* [illegible] *Potamiscus* [illegible] *Larnaudia* [illegible] *Hypolobocera* [illegible] *Zilchiopsis* [illegible] *Ptychophallus* [illegible] *Pseudothelphusa* [illegible] *Odontothelphusa*.

[illegible] *Skrjabini* [illegible] *Rana boulengeri* [illegible]

[illegible] 10 – 8 [illegible]

[illegible] *Sus scrofa*) [illegible] (*leucomystax* *miyazakil*.

[illegible] (WHO, 1979).

[illegible] 1995 [illegible] 20 [illegible] 1.5 – 1 [illegible] 503 [illegible] %6.5 [illegible] %1.6 [illegible] 155 [illegible] 44 [illegible] .(Malek, 1980) .(Queuche *et al.*, 1997) [illegible] (%28) [illegible] .(Nawa, 1991) [illegible] %5.6 [illegible] 20 [illegible] 900 [illegible] .(Kum and Nchinda, 1982) [illegible] 100 [illegible] 1970 – 1967 [illegible] (Nwokolo, 1972) [illegible] 3 [illegible] 66 [illegible] 69 [illegible] .(Voelker and Nwokolo, 1973) [illegible]

[illegible] 1976 – 1972 [illegible] 1969 – 1921 [illegible] 511 [illegible] 316 [illegible] (Arzube and Voelker, 1978) [illegible] %62 [illegible] %43 [illegible] 20 [illegible] (Vieira, 1992) [illegible]

[illegible] (Im *et al.*, 1993; Kagawa, 1997) [illegible]

[illegible] 5.000 [illegible]

[illegible] *Skrjabini* [illegible] *Skrjabini* [illegible] Brenes *et al.*, 1983) [illegible]

[illegible]

[illegible] 35 – 23 [illegible]

[illegible] (drunken crabs [illegible]

[illegible] (Malek, 1980) [illegible]

[illegible]

[illegible] (WHO, 1979) [illegible]

[illegible] (*Viverra civetta*) [illegible] Civet [illegible] Sachs and Voelker) [illegible] 28 [illegible] 26 [illegible] .(1982

[illegible] Im *et*) [illegible] (*al.*, 1993; Kagawa, 1997 [illegible]

47 × 85 [illegible] 48 × 86 [illegible] aboperculur [illegible] 48 × 79 [illegible] 43 × 75 *Miyazakii* [illegible] 48 × 92 [illegible] 48 × 80 *Skrjabini* [illegible] abopercular [illegible] 41 × 68 [illegible] *Diphyllobothrium* [illegible] Pseudophyllidea [illegible] cestodes [illegible] %24 [illegible] 1961 [illegible] %0.4 [illegible] %9 [illegible] 1991 [illegible] 35 [illegible] 32 [illegible] Kong *et al.*,) [illegible] (1998 [illegible] (Maleewong, 1997) [illegible]

[illegible]

[illegible] ·60 [illegible] 2.5 kGy [illegible] 2 kGy [illegible] 30 [illegible] .(Song *et al.*, 1992) [illegible] 0.1 jGy [illegible]

[illegible]


Arzube, M.E., J. Voelker. Über das Vorkommen menschlicher Paragonimiasis in Ecuador (1972–1976). *Tropenmed Parasitol* 29:275–277, 1978.

Blair, D., T. Agatsuma, T. Watanobe, M. Okamoto, A. Ito. Geographical genetic structure within the human lung fluke, *Paragonimus westermani*, detected from DNA sequences. *Parasitology* 115 (Pt4):411–417, 1997.

Blair, D., Z.B. Xu, T. Agatsuma. Paragonimiasis and the genus *Paragonimus*. *Adv Parasitol* 42:113–222, 1999.

Brenes, R.R., M.D. Little, O. Raudales, G. Muñoz, C. Ponce. Cutaneous paragonimiasis in man in Honduras. *Am J Trop Med Hyg* 32:376–378, 1983.

Cabaret, J., C. Bayssade-Dufour, G. Tami, J.L. Albaret. Identification of African Paragonimidae by multivariate analysis of the eggs. *Acta Trop* 72:79–89, 1999.

Garcia, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Im, J.G., Y. Kong, Y.M. Shin, *et al.* Pulmonary paragonimiasis: Clinical and experimental studies. *Radiographics* 13:575–586, 1993.

Kagawa, F.T. Pulmonary paragonimiasis. *Semin Respir Infect* 12:49–58, 1997.

Kong, Y., A. Ito, H.J. Yang, *et al.* Immunoglobulin G (IgG) subclass and IgE responses in human paragonimiases caused by three different species. *Clin Diag Lab Immunol* 5:474–478, 1998.

Kum, P.N., T.C. Nchinda. Pulmonary paragonimiasis in Cameroon. *Trans R Soc Trop Med Hyg* 76:768–772, 1982.

Maleewong, W. Recent advances in diagnosis of paragonimiasis. *Southeast Asian J Trop Med Public Health* 28 Supp 1:134–138, 1997.

Malek, E.A. Vol. 2: *Snail-transmitted Parasitic Diseases*. Boca Raton: CRC Press; 1980.

Miyazaki, I. Paragonimiasis. *In*: Hillyer, G.V., C.E. Hopla, section eds. Section C, Vol. 3: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Nawa, Y. Recent trends of paragonimiasis westermani in Miyazaki Prefecture, Japan. *Southeast Asian J Trop Med Public Health* 22 Suppl:342–344, 1991.

Nwokolo, C. Endemic paragonimiasis in Eastern Nigeria. Clinical features and epidemiology of the recent outbreak following the Nigerian civil war. *Trop Geogr Med* 24:138–147, 1972.

Queuche, F., Cao Van Vien, Le Dang Ha. Un foyer de paragonimose au Viet Nam. *Sante* 7:155–159, 1997.

Sachs, R., J. Voelker. Human paragonimiasis caused by *Paragonimus uterobilateralis* in Liberia and Guinea, West Africa. *Tropenmed Parasitol* 33:15–16, 1982.

Song, C.C., Y.F. Duan, G.C. Shou, H. Zhu. Effect of cobalt-60 irradiation on the infectivity of *Paragonimus westermani* metacercariae. *J Parasitol* 78:869–871, 1992.

Toscano, C., S.H. Yu, P. Nunn, *et al.* Paragonimiasis and tuberculosis, diagnostic confusion: A review of the literature. *Trop Dis Bull* 92:R1–R26, 1995.

Vieira, J.C., H.D. Blankespoor, P.J. Cooper, *et al.* Paragonimiasis in Ecuador: Prevalence and geographical distribution of parasitisation of second intermediate hosts with *Paragonimus mexicanus* in Esmeraldas province. *Trop Med Parasitol* 43:249–252, 1992.

Voelker, J., C. Nwokolo. Human paragonimiasis in Eastern Nigeria by *Paragonimus uterobilateralis*. *Z Tropenmed Parasitol* 24:323–328, 1973.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

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## SCHISTOSOMIASIS l ƑĭƨƥƑǄǂĜǁƐ ƅƐƣ

**ICD-10 B65**

ŏäå) Katayama ÅŋÅÅĬÅõ ĞŋäŸÕŋ ÛBilharziasis ğÅEèøÅTŸGöä ŏäå ·ğÅȥåäÅţä ·(åÅΣä ğÅEèøÅTŸGöä

·gK8ö ĞÅȥŋå ŅğÅȥÕǯŋ ɄĿ ɃÀÎGöä ğÅEèøÅTŸGöä ŏäÆö ĞEöşɉä ÕŋäȥȞöä ·ğÅEGGÊöä *ĞEèøÅTŸGöäş S. japonicum ĞEpÅäÅEöä ĞEèøÅTŸGöäş Schistosoma mansoni ĞEpȥÊÅţä ĞEèøÅTŸGöä* ǯäşäǕ ÕÒì ɁŸɜ Ì ÈHķş ÛÈȥü Ɩè 2.5 – 0.5 ÈEÕk ɄøQöäş Û*S. haematobium ĞÅȥŋÆöä ĞEèøÅTŸGöä* ·ţäȥφɉä ÆEÔk gøȥÔŢş gåÆŢ ĞEȥäÀ8DZ ĘüÅŋ Ž ·ĞÅȥŋÆöä ĞEɜşɉä ȸŧř

[illegible] *S. mekongi* [illegible] *S. intercalatum* [illegible] *S. malayensis* [illegible] *S. mattheei* [illegible] (Kruger and Evans, 1990) [illegible] Greer) [illegible] (*et al.*, 1989 [illegible] (Jusot *et al.*, 1997; Tchuem Tchuente *et al.*, 1997) [illegible] 19 [illegible] (WHO, 1980) [illegible] (Rollinson *et al.*, 1997) [illegible] *Schistosoma* [illegible] digenic [illegible] gynecophoral [illegible] 3.500 – 100 [illegible]

[illegible] (Miracidium [illegible]) [illegible] 8 [illegible] .(Ye *et al.*, 1997) [illegible] °36 – 5 [illegible] 10 [illegible]

*Biomphalaria* [illegible] *Oncomelania* [illegible] *Tropicorbis*، [illegible] *Planorbarius* [illegible] *physopsis* [illegible] *Bulinus* [illegible] *Tricula* [illegible] (Muyquarott *et al.*, 2000) [illegible] *Robertsiella* [illegible] *Lithoghlyphopsys*، [illegible]

[illegible] 7 – 4 [illegible] 20 [illegible] 30.00 [illegible] *Biomphalaria* [illegible] *Bulinus glabosus* [illegible] 180.00، 6.000 [illegible] 450 [illegible] 24.000 [illegible] 12.000 .(Marquardt *et al.*, 2000) [illegible]

[illegible] digenic [illegible] (schistosomulum) [illegible] 36 [illegible] 3 [illegible] 7 [illegible] 12 – 10 [illegible] 8 – 7 [illegible] – 5 [illegible] 30

[illegible] 74 [illegible] (WHO, 2003a) [illegible] %80 [illegible] 200 [illegible] WHO,) [illegible] 20 [illegible] 120 [illegible] .(2003b

[illegible] 52 [illegible]

[illegible] %100 [illegible]
[illegible] .(De Clercq *et al.*, 1999) %28 [illegible]
[illegible]
[illegible] 53 [illegible]
[illegible]
[illegible] 8 [illegible] .(Booth *et al.*, 1998) [illegible]
[illegible]
[illegible] %21.2 [illegible] %2.5 [illegible]
[illegible] .(Jusot *et al.*, 1997; Tchuem Tchente, *et al.*, 1997) [illegible]
[illegible] (*globosus* [illegible] *Forskalli* [illegible]) [illegible]
[illegible]
[illegible] 1.396 [illegible] %49.3 [illegible] 2.391 [illegible] %40
[illegible] 14 – 10 [illegible]
[illegible] .(Stich *et al.*, 1999) [illegible]
[illegible] .(Greer *et al.*, 1989)
[illegible]
.(WHO, 1979) %40 [illegible]

[illegible]
[illegible] 100 [illegible]

[illegible] 10 [illegible] 600.000 [illegible] 12 – 8 [illegible] 739.995 [illegible] %22.8 [illegible] %100 [illegible] .(Machado, 1982) [illegible] 6 [illegible] 4.8 [illegible] 1972 [illegible] 100.000 [illegible] 375.7 [illegible] 1.3 [illegible] 39.2 [illegible] 1972 – 1969 [illegible] 170 [illegible] 1977 [illegible] 400.000 [illegible] .(Katz and Carvalho, 1983) [illegible] 100 [illegible]

[illegible] 1999 [illegible]

%76 – 53 [illegible] (1993 [illegible] %21 [illegible]) [illegible] %1 [illegible] %58 – %34 [illegible] %1.4 [illegible] %84 – %30 [illegible] %2 [illegible] %88 [illegible] 2 [illegible] .(1943 [illegible] %14 [illegible]) [illegible] %11-%7 [illegible] %25 [illegible] %64 – %53 [illegible] %17 [illegible] %46 [illegible] %97 [illegible] 1998 [illegible] %43 [illegible] %0.4 [illegible] %8.5 [illegible] %4.3

[illegible] (*Gerbillus* [illegible]) Gerbils [illegible] .(WHO, 1979) [illegible] %50 [illegible] .(WHO, 1979) [illegible]

[illegible] %90 [illegible] .(El-Garem, 1998) [illegible]

[illegible] 15 – 10 [illegible] Andrade,) [illegible] %27 [illegible] %6 [illegible] .(1998 [illegible] .(Feldmeier, 1998) [illegible] %5 [illegible] .(Morris and Knauer 1997) [illegible] Ferrari 1999;) [illegible] .(Pittella, 1997

[illegible]

[illegible] 10 [illegible] 36 [illegible]

[illegible] .(Leptak and McKerrow, 1997)

[illegible] 176 [illegible] %86 [illegible] %43 [illegible] %80 [illegible] %35 %80 [illegible] %35 [illegible] .praziquantel [illegible] %2 [illegible] IV

(Kardoff *et al.*, 1997)

1.000

%30

14 – 7

dipstick

%80

(Traore, 1998)

[illegible] %90 [illegible] %50 [illegible] %70 [illegible]

[illegible] *S. rodhaini* [illegible] *S. bovis* [illegible]

[illegible]

[illegible] %92 [illegible] %90 [illegible] %62 [illegible] *Spindale* [illegible] 9 – 7 [illegible]

[illegible] (Soulsby, 1982) [illegible]

[illegible]

[illegible]

(Malek, 1975)

[illegible] 25 – 5 [illegible]

[illegible] (*Papio* [illegible]) [illegible] 31 [illegible] 7 [illegible] Greer *et al.*,) [illegible] (1989 [illegible]

[illegible] .(Jusot *et al.*, 1997; Tchuen Tchent *et al.*, 1997) [illegible]

[illegible] .(Morand *et al.*, 1999) [illegible]

[illegible] 180 – 110 [illegible] 70 – 40 [illegible] .(Almeda *et al.*, 1996) [illegible]

[illegible] .(Borel *et al.,* 1999)

[illegible] eclosion [illegible] .(Tsang and Wilkins, 1997) [illegible] (Sm22.3) [illegible] %90 [illegible] %80 [illegible] .(Hancock *et al.,* 1997) [illegible]

ÆR̂ÇÊţä Ål̨ql̨ J̇Ü gåÅg ʔşÆŇæ ƙæÅÔţä ʔr̀Åţä ЗɪP ȸŋ gæẓǹüţä IgGş IgM åäÆr̀Ü gæẓǹüţä IgM åäÆr̀ɟä ȸŋ ÙÖẓ %10 Ō3ÅÅQÅ ÅŧÆä *ÜĞɪɸẓÊÅţä ĞɪèøÅTŸGöÅæ* ĩ Åʅä SM31/32 IgM åäÆr̀Ü 3ŋ ÆR̂ÇÊţä äØŁ Ō3ÅÅǨ J̇ẓÖÅ Æę ƃÅQöÅæş ÛĞÅŋÂŋ ʔşÆŇæ ƙæÅÔţä ʔr̀Åţä ȸŋ .(Valli *et al.*, 1999) åÅΣä ȏ ÅŧŸö ÅŧÔåş

ğ ÅÈèøÅTŸGöä õäÆæ Ğɸẓùẓţä Ęùǻţä Ž âøäÆţä Ž ƙèøÆţäş ā ŸÛöä ʔŸ3 J̇ÅĞQèä ɃÅDZÅ *ĞɪèøÅTŸGöä* ʔşäÆ3 ȸŋ ƘGõ åÆŇö ą̇ÏŁÆŋ ą̊ẓDZş ȸ3 J̇ÅĞQèɍä äØŁ Ẓ Îõ Æęş ÛƃẓGöä ɄÅÒÅ ğ ɍÅΣä ȸŋ ÆÅÆŇöä Ž .(Partnership for Child Development, 1999) *ĞÅẓŋÆöä*

ğ ÅţÊţä ğ äæ ĞɪÎɖɟä Ž ĞɪìÅQöä J̇Ü ɭɖø Û ȏẓɪGöä åÅƶq ĞɪöẓGöä ĞöÅÅǯöä ÒHẓş ØɪGÅǨ Ẓ ÎÒÅ ğ ÅɪÅÅäẓɪöä gÆŁÅÎŋ ȣÆõ ĞɪöẓGöä ĞöÅÅǯöä ÒHẓ J̇Ü ·ʔŸ3Ü ĞɪèÅÊǵ ŌŸQƹ ĞÅşÅÒţä Ẓ ÎÒö ȯẓGöä Ž ȄŧȣƗ ɄøQöä ĞùÅìɟä ŷäÆÅQèä ÅTŢŢƗ ŌöØõ ·ʔşäÆŇöä ȸŋ %80 ȸŋ ÅǯõÜ J̇ɇä ÆDZẓǨ ·ÅɪЗẓɸ Èɪö øÅĞQǹɍä äØŁ J̇Ü ɭɖø ÛʔşäÆŇöä ȸŋ ÅƘGõ ÅåÆ3 ğ ÅÆǨşƎöä şÜ ŷÆöä Ž ÅTÊŧɖ ÆÅ3 *ĞÅẓŋÆöä ĞɪèøÅTŸGöä* ğ äÆR̂ÇÊŋ ą̊ẓDZş Ẓ ÎÒǨ Ğɪ3ẓɸ åäÆr̀üæ ĞæÅÎŋ ĞùÅìÜ øÅĞQǹä ȸŋ ĞɪèÅÊǵ Ōęü ĞÖÅÅÛöä ĆØŁ J̇Ü ɭɖø .(Bosompen *et al.*, 1997) ȯẓGöä ȸŋ ǯæẓʃ ÆÕö ·Ğɪ3ẓŧƨä ğ ÅèäøÆöä Ž ŷäÆÅQèɍä ĞŸTè ɄTẓ (äÅɪöɋä) ĆÅøɸɟÅæ ÙĞǨÅţä Ʉ3ÅÅţä ÅQŧţä ȸ3 ǬHƲGöä Ž Ƀẓę ÒÒÎæ ĞɪèÅÊǵ ÅǯõÜ ŌÔţä Ž ğ äÆR̂ÇÊţä şÜ åäÆr̀ɟä ȸ3 ǬHƲGöä J̇Åõ .(Al-Sherbiny *et al.*, 1999) ȯẓGöä Ž ȏẓɪGöä

Ğ ɛÅŇŋş ÒɪÅÎǨ ·1 ·ɄŁ ğ ÅÈèøÅTŸGöä õäå ĞHẓÅÒŋ ŌDZÜ ȸŋ ĞÅÔŧţä ƘæäÆQöä ·ĞHẓÅÒţä õÅÅẓɸɟä ĞHẓÅÒŋ ·4 ·ɄHÔöä ẒɪÕǯQöä ·3 ·Ğɪ3ẓŧɛä şÜ ĞɪəÅÕQɸɍä ĞɪəÅɪŧɪÒöä Ğ ɛÅŇţä ·2 · ȏ Åţä ·ĞÅɪGöä ŌÅÆŇǨ ·6 ·ĞɪHÔöä ğ ÅɖÅÅţä ȸŋ ÒŸÅQöä ĞŧŢɸÜş ŽÅÒöä õÅţÅæ ÆÅşÅQöä ·5 ·ĞÛèẓQţä

Ǭɪǵ ĞɪəÅęş ÅTÅÒöş ÛÙÖẓ ĞɪDZŸ3 ǨÊɪö ʔşÆŇöÅæ ƙæÅÔţä ĩ ÅÅìǬö ĞɪəÅɪŧɪÒöä Ğ ɛÅŇţä ŌɪQɸäẓÒÅäåäƎöä ŷäÆÅQèÅæ ĞÅÅÅÊöä ā øÅDZQöä ǨÛ3Ü ·ĞÅɪGöä ϙẓŸǨ ɄøQöä ȏ ẓɪGöä ǯÅQɸÜ Ẓęẓǩ *ĞɪèøÅTŸGöÅş* ÅɪGŋäæ Ž *ĞÅẓŋÆöä ĞɪèøÅTŸGöÅş* ŌÅäåƎöä Ž *ĞɸẓÊÅţä ĞɪèøÅTŸGöä* ʔşÆ3 ǯŸ3 ȣÆõ ĞģşÅÛţä ȏ ẓɪGöä ĩ ÅÕɸÜş ɄŸɪÅÛöä ǯŸ3 ȸŋ Õõ Ž gäÅQɯ ǰəÅQɸ J̇ÅæÆöäş ƙGŸɪÅöä Ž *ĞɸÅäÅɪöä*
289 ẑẓ3 ·ğ äẓÅè ϙŸǭ ǨęÅ8QèÅş ÅÕÎɖÆŋ Ž ǨÅÅDZÜ ɋèäøå Ž .(WHO, 19980)

%19 … 202 … %66 … (Boisier *et al.*, 1998) … 27 …

14 – 7 … (1996) …

*Marsia comuarietis*

*M. cornuarietis* (WHO, 1980)

22-6

*Tiara granifera*

(Prentice, 1983)

%14 1945

1982 1996 %1.4 1942

%80

100

2

15.000

[illegible] (Alarcón de Noya *et al.,* 1994) [illegible] (Katz, 1998) [illegible] (Bergquist, 1998) [illegible]

[illegible]

Alarcón de Noya, B., C. Balzán, C. Arteaga, I. Cesari, O. Noya. The last fifteen years of schistosomiasis in Venezuela: Features and evolution. *Mem Inst Oswaldo Cruz* 94:139–146, 1999.

Almeda, J., C. Ascaso, G.A. Marcal, *et al.* Morphometric variability of *Schistosoma intercalatum* eggs: A diagnostic dilemma. *J Helminthol* 70:97–102, 1996.

Al-Sherbiny, M.M., A.M. Osman, K. Hancock, A.M. Deelder, V.C. Tsang. Application of immunodiagnostic assays: Detection of antibodies and circulating antigens in human schistosomiasis and correlation with clinical findings. *Am J Trop Med Hyg* 60:960–966, 1999.

Andrade, Z.A. The situation of hepatosplenic schistosomiasis in Brazil today. *Mem Inst Oswaldo Cruz* 93 Suppl 1:313–316, 1998.

Bergquist, N.R. Schistosomiasis vaccine development: Progress and prospects. *Mem Inst Oswaldo Cruz* 93 Suppl 1:95–101, 1998.

Boisier, P., C.E. Ramarokoto, V.E. Ravaoalimalala, *et al.* Reversibility of *Schistosoma mansoni*-associated morbidity after yearly mass praziquantel therapy: Ultrasonographic assessment. *Trans R Soc Trop Med Hyg* 92:451–453, 1998.

Booth, M., C. Mayombana, P. Kilima. The population biology and epidemiology of schistosome and geohelminth infections among school children in Tanzania. *Trans R Soc Trop Med Hyg* 92:491–495, 1998.

Borel, E., J.F. Etard, A. Addo, M. Diakite. Comparison of a digestion-sedimentation technique with the Kato-Katz technique in the detection and quantification of *S. mansoni* eggs in light to moderate infections. *Parasite* 6:175–178, 1999.

Bosompem K.M., I. Ayi, W.K. Anyan, *et al.* A monoclonal antibody-based dipstick assay for diagnosis of urinary schistosomiasis. *Trans R Soc Trop Med Hyg* 91:554–556, 1997.

De Clercq, D., J. Vercruysse, M. Picquet, *et al.* The epidemiology of a recent focus of mixed *Schistosoma haematobium* and *Schistosoma mansoni* infections around the 'Lac de Guiers' in the Senegal River Basin, Senegal. *Trop Med Int Health* 4:544–550, 1999.

El-Garem, A.A. Schistosomiasis. *Digestion* 59:589–605, 1998.

Ferrari, T.C. Spinal cord schistosomiasis. A report of 2 cases and review emphasizing clinical aspects. *Medicine (Baltimore)* 78:176–190, 1999.

Feldmeier, H., R.C. Daccal, M.J. Martins, V. Soares, R. Martins. Genital manifestations of schistosomiasis *mansoni* in women: Important but neglected. *Mem Inst Oswaldo Cruz* 93 Suppl 1:127–133, 1998.

Greer, G.J., D.T. Dennis, P.F. Lai, H. Anuar. Malaysian schistosomiasis: Description of a population at risk. *J Trop Med Hyg* 2:203–208, 1989.

Hancock, K., Y.B. Mohamed, X. Haichou, *et al.* A recombinant protein from *Schistosoma mansoni* useful for the detection of *S. mansoni* and *Schistosoma haematobium* antibodies. *J Parasitol* 83:612–618, 1997.

Jusot, J.F., P.P. Simarro, A. De Muynck. La bilharziose à *Schistosoma intercalatum*: considerations cliniques et epidemiologiques. *Med Trop (Mars)* 57:280–288, 1997.

Kardorff, R., R.M. Gabone, C. Mugashe, *et al. Schistosoma mansoni*-related morbidity on Ukerewe Island, Tanzania: Clinical, ultrasonographical and biochemical parameters. *Trop Med Int Health* 2:230–239, 1997.

Katz, N. Schistosomiasis control in Brazil. *Mem Inst Oswaldo Cruz* 93 Suppl 1:33–35, 1998.

Katz, N., O.S. Carvalho. Introdução recente de esquistossomose *mansoni* no Sul do Estado de Minas Gerais, Brasil. *Mem Inst Oswaldo Cruz* 78:281–284, 1983.

Kruger, F.J., A.C. Evans. Do all human urinary infections with *Schistosoma mattheei* represent hybridization between *S. haematobium* and *S. mattheei*? *J Helminthol* 64:330–332, 1990.

Leptak, C.L., J.H. McKerrow. Schistosome egg granulomas and hepatic expression of TNF-alpha are dependent on immune priming during parasite maturation. *J Immunol* 158:301–307, 1997.

Machado, P.H. The Brazilian program for schistosomiasis control, 1975–1979. *Am J Trop Med Hyg* 31:76–86, 1982.

Mahmoud, A.A. Schistosomiasis. *New Engl J Med* 297(24):1329–1331, 1977.

Mahmoud, A.A. Schistosomiasis. *In*: Warren, K.S., A.A. Mahmoud, eds. *Tropical and Geographical Medicine*. New York: McGraw-Hill; 1984.

Malek, E.A. Effect of the Aswan high dam on prevalence of schistosomiasis in Egypt. *Trop Geogr Med* 27:359–364, 1975.

Marquardt, W.C., R.S. Demaree, Jr., R.B. Grieve, eds. *Parasitology and Vector Biology*, 2nd ed. San Diego: Academic Press; 2000.

Morand, S., J.P. Pointier, A. Theron. Population biology of *Schistosoma mansoni* in the black rat: Host regulation and basic transmission rate. *Int J Parasitol* 29:673–684, 1999.

Morris, W., C.M. Knauer. Cardiopulmonary manifestations of schistosomiasis. *Semin Respir Infect* 12:159–170, 1997.

Ndamba, J., O. Makura, P.R. Gwatirisa, N. Makaza, K.C. Kaondera. A cost effective two step rapid diagnosis of urinary schistosomiasis in Zimbabwe. *Cent Afr J Med* 44:167–171, 1998.

Olds, G.R., R. Olveda, G. Wu, *et al.* Immunity and morbidity in schistosomiasis *japonicum* infection. *Am J Trop Med Hyg* 55(Suppl 5):121–126, 1996.

Partnership for Child Development. Self-diagnosis as a possible basis for treating urinary schistosomiasis: A study of schoolchildren in a rural area of the United Republic of Tanzania. *Bull World Health Organ* 77:477–483, 1999.

Pittella, J.E. Neuroschistosomiasis. *Brain Patol* 7:649–662, 1997.

Prentice, M.A. Displacement of *Biomphalaria glabrata* by the snail *Thiara granifera* in field habitats in St. Lucia, West Indies. *Ann Trop Med Parasitol* 77:51–59, 1983.

Rollinson, D., A. Kaukas, D.A. Johnston, A.J. Simpson, M. Tanaka. Some molecular insights into schistosome evolution. *Int J Parasitol* 27:11–28, 1997.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea and Febiger; 1982.

Stich, A.H., S. Biays, P. Odermatt, *et al.* Foci of *Schistosomiasis mekongi*, Northern Cambodia: II. Distribution of infection and morbidity. *Trop Med Int Health* 674–685, 1999.

Tchuem Tchuente, L.A., V.R. Southgate, J. Vercruysse, *et al.* Epidemiological and genetic observations on human schistosomiasis in Kinshasa, Zaire. *Trans R Soc Trop Med Hyg* 91:263–269, 1997.

Traore, M., H.A. Traore, R. Kardorff, *et al.* The public health significance of urinary schistosomiasis as a cause of morbidity in two districts in Mali. *Am J Trop Med Hyg* 59:407–413, 1998.

Tsang, V.C., P.P. Wilkins. Immunodiagnosis of schistosomiasis. *Immunol Invest* 26:175–188, 1997.

Valli, L.C., H.Y. Kanamura, R.M. Da Silva, R. Ribeiro Rodriguez, R. Dietze. Schistosomiasis *mansoni*: Immunoblot analysis to diagnose and differentiate recent and chronic infection. *Am J Trop Med Hyg* 61:302–307, 1999.

Williams, S.A., D.A. Johnston. Helminth genome analysis: The current status of the filarial and schistosome genome projects. *Parasitology* 118 Suppl:S19–38, 1999.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

World Health Organization (WHO). *Epidemiology and Control of Schistosomiasis. Report of a WHO Expert Committee*. Geneva: WHO; 1980. (Technical Report Series 643).

World Health Organization (WHO). *Schistosomiasis. Disease information* [Web page]. Available at www.who.int/tdr/diseases/schisto/diseaseinfo.htm. Accessed 14 February 2003.

World Health Organization (WHO). *Schistosomiasis*. [Web page]. Available at www.who.int/ctd/schisto/index.html. Accessed 14 February 2003.

Ye, X.P., Y.L. Fu, Z.X. Wu, R.M. Anderson, A. Agnew. The effects of temperature, light and water upon the hatching of the ova of *Schistosoma japonicum*. *Southeast Asian J Trop Med Public Health* 8:575–580, 1997.

## 2. Cestodiases [illegible] .2

### BERTIELLIASIS [illegible]

**[illegible] ICD-10 B71.9**
**ICD-10 B71.9 Cestode infection, unspecified**

[illegible] *B. mucronata* [illegible] (*B. satyri*) *Bertiella Studeri* [illegible] anoplocephalids [illegible] *mucronata* [illegible] *studeri* [illegible] 1 [illegible] 30 – 10 [illegible] .(Denegri *et al.*, 1998) [illegible] oribatid [illegible] 20 [illegible] .*Scutovertex*، *Scheloribates*، *Galumna*، *Achipteria*، *Dometorina* [illegible] humus [illegible] 0.5 [illegible] .cysticercoid [illegible]

[illegible] *mucronata* [illegible] 7 *Studeri* [illegible] 45 [illegible] 56 [illegible] 1999

[illegible] .(Ando *et al.,* 1996; Denegri and Perez-Serrano, 1997) [illegible] 4 [illegible] *Studeri* [illegible] *Studeri* [illegible] *mucronata* [illegible] 3 [illegible]

*Anthropithecus* [illegible] *Simya* [illegible] *studeri* [illegible] .*Papio* [illegible] *Pan* [illegible] *Troglodytes* [illegible] *Cercopithecus* [illegible] *Hylobates* [illegible] *Allouata* [illegible] *mucronata* [illegible] .*Callithrix* [illegible] *Cebus* [illegible] *Callicebus* [illegible] %5.3 [illegible] %1.4 [illegible] %14 [illegible] %3.6 [illegible] .(Flynn, 1973) [illegible] %7.7 [illegible] %7.1 [illegible]

[illegible] .(Owen, 1992) [illegible]

[illegible] oribatid [illegible]

[illegible]

[illegible] (46 – 40 × 60 – 49) *studeri* [illegible] (40 – 36 × 46 – 40) *mucronata* [illegible]

[illegible]

[illegible]

Ando, K., T. Ito, K. Miura, H. Matsuoka, Y. Chinzei. Infection of an adult in Mie Prefecture, Japan by *Bertiella studeri*. *Southeast Asian J Trop Med Public Health* 27:200–201, 1996.

Denegri, G.M., J. Perez-Serrano. Bertiellosis in man: A review of cases. *Rev Inst Med Trop Sao Paulo* 39:123–127, 1997.

Denegri, G.M., W. Bernadina, J. Perez-Serrano, F. Rodriguez-Caabeiro. Anoplocephalid cestodes of veterinary and medical significance: A review. *Folia Parasitol (Praha)* 45:1–8, 1998.

Flynn, R.J. *Parasites of Laboratory Animals*. Ames: Iowa State University Press; 1973.

Owen, D.G. *Parasites of Laboratory Animals*. London: Royal Society of Medicine Services; 1992.

Turner, J.A. Other cestode infections. *In*: Hubbert, W.T., W.F. McCulloch, P.R. Schnurrenberger, eds. *Diseases Transmitted from Animals to Man*, 6th ed. Springfield: Thomas; 1975.

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## COENUROSIS [illegible]

[illegible] **ICD-10 B71.9**

**ICD-10 B71.9 Cestode infection, unspecified**

.sturdy [illegible] gid [illegible] vertigo [illegible] Coenuriasis [illegible]

*C. serialis* [illegible] *Coenurus cerebralis* [illegible]

Taenia [illegible] C. brauni [illegible]
[illegible] T. brauni [illegible] T. serialis [illegible] multiceps
[illegible]
[illegible]
[illegible]
.coenurus [illegible] Multiceps [illegible]
[illegible]
[illegible] Taenia [illegible]
[illegible]
[illegible] .(Barriga, 1997)
[illegible]
[illegible] 1990 [illegible]
[illegible] 1990 [illegible]
[illegible]
[illegible]
Gasser and Chilton,) [illegible]
.(1995

[illegible] canids [illegible]
[illegible] tapeworms [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] T. gaigeri
[illegible]

[illegible] hare [illegible] (Huss *et al.*, 1994) [illegible] *T. serialis* [illegible] *brauni* [illegible]

[illegible] oncospheres [illegible] 700 – 500 [illegible] 500 – 400 [illegible] scolices [illegible] (Barriga, 1997) [illegible] 5 [illegible] 8 – 6 [illegible] canid [illegible] canids [illegible]

[illegible] (Pau *et al.*, 1990) [illegible] 55 [illegible] 1990 [illegible] 1950 [illegible] (Ing *et al.*, 1998) [illegible] 6 [illegible] 1998 [illegible]

[illegible] (%100) [illegible] 37 [illegible] 37 [illegible] (%2.7) [illegible] 183 [illegible] 5 [illegible] %96 [illegible] 6.5 [illegible] 0.8 [illegible] %62 [illegible] gid [illegible] %47 [illegible] %4.5 [illegible] %2.3 [illegible] 24 – 6 [illegible] %72 [illegible] 7,992 [illegible] 738 [illegible] .(Achenef *et al.*, 1999) [illegible] .(Oryan *et al.*, 1994) [illegible] (%9.8) [illegible] 875 [illegible] (%0.5) 4 [illegible] (%1.7) 15 [illegible] (%0.6) 5 [illegible] (%0.3) 3 [illegible] 882 [illegible] Jones and) (%0.5) [illegible] 197 [illegible] Ballek *et al.*,) [illegible] 397 [illegible] %3.3 [illegible] .(Walter, 1992 .(Moro *et al.*, 1998) [illegible] 20 [illegible] %20 [illegible] (1992

[illegible] .(Faust *et al.*, 1974) [illegible] 10 [illegible] leporids

[illegible] *brauni* [illegible] 25 [illegible]

[illegible] Ing et al., 1998 [illegible]

[illegible] (Rakha et al., 1997) [illegible]

[illegible]

[illegible] 62 [illegible] %42 [illegible]

[illegible] leporids

[illegible] canids [illegible] (Pierre *et al.*, 1998) [illegible] Dyson and) [illegible] .(Linklater, 1979

[illegible]

[illegible]

## [illegible]

Achenef, M., T. Markos, G. Feseha, A. Hibret, S. Tembely. *Coenurus cerebralis* infection in Ethiopian highland sheep: Incidence and observations on pathogenesis and clinical signs. *Trop Anim Health Prod* 31:15–24, 1999.

Ballek, D., M. Takla, S. Ising-Volmer, M. Stoye. [The helminth fauna of red foxes (*Vulpes vulpes Linnaeus* 1758) in north Hesse and east Westphalia. 1. Cestodes]. *Dtsch Tierarztl Wochenschr* 99:362–365, 1992.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Bohrmann, R. *Coenurus* in the muscles of a gemsbok (*Oryx gazella*). *Vet Parasitol* 36:353–356, 1990.

Dyson, D.A., K.A. Linklater. Problems in the diagnosis of acute coenurosis in sheep. *Vet Rec* 104:528–529, 1979.

Faust, E.C., P.F. Russell, R.C. Jung. *Craig and Faust's Clinical Parasitology*, 8th ed. Philadelphia: Lea & Febiger; 1970.

Gasser, R.B., N.B. Chilton. Characterisation of taeniid cestode species by PCR-RFLP of ITS2 ribosomal DNA. *Acta Trop* 59:31–40, 1995.

Huss, B.T., M.A. Miller, R.M. Corwin, E.P. Hoberg, D.P. O'Brien. Fatal cerebral coenurosis in a cat. *J Am Vet Med Assoc* 205:69–71, 1994.

Ing, M.B., P.M. Schantz, J.A. Turner. Human coenurosis in North America: Case reports and review. *Clinic Infect Dis* 27:519–523, 1998.

Jones, A., T.M. Walters. A survey of taeniid cestodes in farm dogs in mid-Wales. *Ann Trop Med Parasitol* 86:137–142, 1992.

Lachberg, S., R.C. Thompson, A.J. Lymbery. A contribution to the etiology of racemose cysticercosis. *J Parasitol* 76:592–594, 1990.

Moro, P.L., J. Ballarta, R.H. Gilman, G. Leguia, M. Rojas, G. Montes. Intestinal parasites of the grey fox (*Pseudalopex culpaeus*) in the central Peruvian Andes. *J Helminthol* 72:87–89, 1998.

Oryan, A., N. Moghaddar, S.N. Gaur. Metacestodes of sheep with special reference to their epidemiological status, pathogenesis and economic implications in Fars Province, Iran. *Vet Parasitol* 51:231–240, 1994.

Pau, A., C. Perria, S. Turtas, *et al.* Long-term follow-up of the surgical treatment of intracranial coenurosis. *Br J Neurosurg* 4:39–43, 1990.

Pierre, C., M. Civatte, A. Chevalier, J.P. Terrier, P. Gros, E. Carloz. Le diagnostic des helminthes en anatomie pathologique. *Med Trop (Mars)* 58:85–97, 1998.

Rakha, N.K., J.B. Dixon, S.D. Carter. Immunological activities of a lymphocyte mitogen isolated from coenurus fluid of *Taenia multiceps* (Cestoda). *Parasite* 4:9–16, 1997.

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## CYSTICERCOSIS [illegible]

### ICD-10 B69

[illegible] cysticercus [illegible] *T. crassiceps* [illegible] Taenia solium [illegible] *T. saginata* [illegible] *Cysticercus cellutose* [illegible] *longicollis* [illegible]

[illegible] *C. bovis* [illegible] canids [illegible] unarmed rostella [illegible]

[illegible] *T. ovis* [illegible] *T. taeniaeformis* [illegible] *T. hydatigena* [illegible]

[illegible] $10 - 8 \times 5$ [illegible] $70 - 60$ [illegible] socket [illegible]

[illegible] .*Cysticercus racemosus* [illegible]

[illegible] canids [illegible]

[illegible] (corticoids) [illegible]

[illegible]

[illegible]

[illegible] %10 [illegible] %17 [illegible] (Vilhena *et al.,* 1999) [illegible] 222 [illegible] %14.9 [illegible] %22 [illegible] (Garcta-Noval *et al.,* 1996) [illegible] (Sánchea *et al.,* 1998) [illegible] 363 [illegible] %16 [illegible] 41 2,180 [illegible] %3.2 [illegible] (Escalante *et al.,* 1995) [illegible] 9,254 [illegible] %9

[illegible] %2 [illegible] %4.5 [illegible] %9 [illegible] (Lonardoni *et al.*, 1996) [illegible]
[illegible] .(Jafri *et al.*, 1998) [illegible] 3 [illegible] 438
[illegible] 89 [illegible] %43 [illegible] 365 [illegible] %13 [illegible]
[illegible] .(Garcìa *et al.*, 1999) [illegible]
[illegible] %30 [illegible] 1991 [illegible]
[illegible] %2 [illegible]
[illegible] %35 [illegible] 4 [illegible]
[illegible] .(Sánchez *et al.*, 1997) %1.5 [illegible]
[illegible] %9 [illegible] %0.1 [illegible]
.(Agapejev, 1996) %5.2 [illegible] %0.7 [illegible]

17 [illegible]
[illegible] %0.43 [illegible]
[illegible] 9 [illegible] 123.826 [illegible]
[illegible] 100 [illegible] 100 [illegible]
[illegible] 30 [illegible]
[illegible]
[illegible] .(WHO, 1979) [illegible]
%1 [illegible]
[illegible] %25 [illegible]
[illegible] 21.297 [illegible] 1979 – 1946 [illegible]
[illegible] %2.9 [illegible]
[illegible] %3 [illegible]
[illegible] Triângulo Mineiro [illegible] .(Mateos, 1982) [illegible]
[illegible] %2.4 [illegible] Minas Gerais
[illegible] %26.8 [illegible] %66 [illegible] 2.306

[illegible] %7.1 [illegible] %25 [illegible] .(Gobbi *et al.*, 1980) [illegible]

[illegible] 1992 [illegible] (Arocker-Mettiner *et al.*, 1992) [illegible] (Klinker *et al.*, 1992) [illegible] (Chermette *et al.*, 1995; François *et al.*, 1998) [illegible]

[illegible] %65 [illegible] 12 [illegible] %0.83 [illegible] 1972 – 1970 [illegible] 10 [illegible]

(%0.7) … (%23) 75 … 17 … (%35) … 26 … (Rodríguez-Canul *et al.*, 1999) … Garcia *et al.*,) … 89 … %43 … %30 … (1997 … (Sánchez *et al.*, 1997) … %8.1 … %0.1 … %1.5 … 1970 … %0.004 … 1962 … %0.14 … %68 … 1963 … 6 … 264,000 … 1980 … 43 … 2.000 …

[illegible]

122 [illegible] (%26) [illegible] 19 [illegible] 52 [illegible] .(Ruíz-García *et al.*, 1997) [illegible] (%22.92) [illegible] %6 [illegible] (%23 [illegible] %9) [illegible] (%89 [illegible] %19) [illegible] .(Agapejev, 1996) [illegible] %48.5 [illegible] (Rodríguez-Canul *et al.*, 1999) [illegible] 2,522 [illegible] (Chimelli *et al.*, 1998) [illegible] (%58) [illegible] 22 [illegible] (%1.5) [illegible] 38 [illegible] (%55) [illegible] 21 [illegible] %46.8 [illegible]

[illegible] %20 [illegible] %30 [illegible] .(Robles *et al.*, 1997) [illegible] %68 [illegible]

[illegible]

[illegible] paramyosin [illegible] taeniaestatine [illegible] .(White *et al.*, 1997) [illegible]

[illegible] (1998) [illegible] (1992) [illegible] $^{3-2}$ [illegible]

[illegible]

[illegible]

.(García-García *et al.*, 1999)

%24 %3

%8.6

.(García *et al.*, 1998) %23.3

%16

%22

Sánchez *et al.*,)

.(1998

(%1.4) 993 14

%0.02

.(Chamouillet *et al.*, 1997)

.(Rodríguez-Canul *et al.*, 1999)

.(Gupta *et al.*, 1997)

.(Carpio *et al.*, 1998)

46 8 147 35 (%17) 42 6 (%24)

Gruz *et al.*,) (%23) 124 28 (%14)

.(1999 (1996)

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] %85.4 [illegible]

[illegible] .(Ferreira *et al.,* 1997) [illegible]

Rodríguez-) [illegible] 26 [illegible] 8 [illegible]

[illegible] .(Canul *et al.,* 1999

[illegible] .(Hubert *et al.,* 1999) %91.5 [illegible] %96.3 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] 8 [illegible] (1999) [illegible]

.%100 [illegible] %93 [illegible] 26 [illegible]

[illegible]

(Cao et al., 1997)

(Sarti et al., 1997) %1.2 %5.2

(Borriga, 1997)

%1 %3.5

(Allan et al., 1997) 10 %7 %55

(1999)

Agapejev, S. Epidemiology of neurocysticercosis in Brazil. *Rev Inst Med Trop Sao Paulo* 38:207–216, 1996.

Allan, J.C., M. Velásquez-Tohom, C. Fletes, *et al.* Mass chemotherapy for intestinal *Taenia solium* infection: Effect on prevalence in humans and pigs. *Trans R Soc Trop Med Hyg* 91:595–598, 1997.

Arocker-Mettinger, E., V. Huber-Spitzy, H. Auer, G. Grabner, M. Stur. *Taenia crassiceps* in der Vorderkammer des menschlichen Auges. Ein Fallbericht. *Klin Monatsbl Augenheilkd* 201:34–37, 1992.

Barriga, O.O. *Veterinary Parasitology for Practitioners*. 2nd ed. Edina: Burgess International Group; 1997.

Cao, W., C.P. van der Ploeg, J. Xu, C. Gao, L. Ge, J.D. Habbema. Risk factors for human cysticercosis morbidity: A population-based case-control study. *Epidemiol Infect* 119:231–235, 1997.

Carpio, A., A. Escobar, W.A. Hauser. Cysticercosis and epilepsy: A critical review. *Epilepsia* 39:1025–1040, 1998.

Chamouillet, H., B. Bouteille, H. Isautier, A. Begue, M. Lecadieu. Séroprévalence de la cysticercose, taeniasis et ladrerie porcine, à La Réunion en 1992. *Med Trop (Mars)* 57:41–46, 1997.

Chermette, R., J. Bussieras, J. Marionneau, *et al.* Cysticercose envahissante à *Taenia crassiceps* chez un patient atteint de sida. *Bull Acad Natl Med* 179:777–780, 1995.

Chimelli, L., A.F. Lovalho, O.M. Takayanagui. Neurocysticercie. Contribuição da necropsia na consolidação da notificação compulsória em Ribeirão Preto-SP. *Arq Neuropsiquiatr* 56:577–584, 1998.

Cruz, M.E., P.M. Preux, C. Debrock, *et al.* Épidémiologie de la cysticercose cérébrale dans une communauté des Andes en Equateur. *Bull Soc Pathol Exot* 92:38–41, 1999.

Cruz, M.E., P.M. Schantz, I. Cruz, *et al.* Epilepsy and neurocysticercosis in an Andean community. *Internat J Epidemiol* 28:799–803, 1999.

del Brutto, O.H. Neurocysticercosis en niños: análisis clínico, radiológico y de factores pronósticos en 54 pacientes. *Rev Neurol* 25:1681–1684, 1997.

del Brutto, O.H., N.H. Wadia, M. Dumas, M. Cruz, V.C. Tsang, P.M. Schantz. Proposal of diagnostic criteria for human cysticercosis and neurocysticercosis. *J Neurol Sci* 142:6, 1996.

Eom, K.S., H.J. Rim. Morphologic descriptions of *Taenia asiatica* sp. n. *Korean J Parasitol* 31:1–6, 1993.

Escalante, L., E.C. Rowland, M.R. Powell. Prevalence of anti-*Taenia solium* antibodies in sera from outpatients in an Andean region of Ecuador. *Mem Inst Oswaldo Cruz* 90:715–719, 1995.

Ferreira, A.P., A.J. Vaz, P.M. Nakamura, A.T. Sasaki, A.W. Ferreira, J.A. Livramento. Hemagglutination test for the diagnosis of human neurocysticercosis: Development of a stable reagent using homologous and heterologous antigens. *Rev Inst Med Trop Sao Paulo* 39:29–33, 1997.

Flisser, A., J.P. Williams, C. Laclette, *et al.*, eds. *Cysticercosis: Present state of knowledge and perspectives. Proceedings of an International Workshop on Cysticercosis held in San Miguel de Allende, Guanajuato, Mexico, on November 16–18, 1981*. New York: Academic Press; 1982.

François, A., L. Favennec, C. Cambon-Michot, *et al.* *Taenia crassiceps* invasive cysticercosis: A new human pathogen in acquired immunodeficiency syndrome? *Am J Surg Pathol* 22:488–492, 1998.

García, H.H., R. Araoz, R.H. Gilman, *et al.* Increased prevalence of cysticercosis and taeniasis among professional fried pork vendors and the general population of a village in the

Peruvian highlands. Cysticercosis Working Group in Peru. *Am J Trop Med Hyg* 59:902–905, 1998.

García, H.H., R. Gilman, A.E. González, R. Pacheco, M. Verastegui, V.C. Tsang. Human and porcine *Taenia solium* infection in a village in the highlands of Cusco, Peru. The Cysticercosis Working Group in Peru. *Acta Trop* 3:31–36, 1999.

García-García, M.L., M. Torres, D. Correa, *et al*. Prevalence and risk of cysticercosis and taeniasis in an urban population of soldiers and their relatives. *Am J Trop Med Hyg* 61:386–389, 1999.

García-Noval, J., J.C. Allan, C. Fletes, *et al*. Epidemiology of *Taenia solium* taeniasis and cysticercosis in two rural Guatemalan communities. *Am J Trop Med Hyg* 55:282–289, 1996.

Gobbi, H., S.J. Adad, R.R. Neves, *et al*. Ocorrência de cisticercose *(Cysticercus cellulosae)* em Uberaba, M.G. *Rev Pat Trop (Goiana, Brazil)* 9:51–59, 1980.

Gupta, R.L., V. Agrawal, S. Kumar, Monika. Oral expulsion of *Taenia saginata*. *Indian J Gastroenterol* 16:70–71, 1997.

Hubert, K., A. Andriantsimahavandy, A. Michault, M. Frosch, F.A. Muhlschlegel. Serological diagnosis of human cysticercosis by use of recombinant antigens from *Taenia solium* cysticerci. *Clin Diagn Lab Immunol* 6:479–482, 1999.

Jafri, H.S., F. Torrico, J.C. Noh, *et al*. Application of the enzyme-linked immunoelectrotransfer blot to filter paper blood spots to estimate seroprevalence of cysticercosis in Bolivia. *Am J Trop Med Hyg* 58:313–315, 1998.

Klinker, H., K. Tintelnot, R. Joeres, *et al*. *Taenia-crassiceps*-Infektion bei AIDS. *Dtsch Med Wochenschr* 117:133–138, 1992.

Lonardoni, M.V., D.A. Bertolini, T.G. Silveira, *et al*. Frequência de anticorpos anti-*Cysticercus cellulosae* em indivíduos de cinco municípios da região Norte do Estado do Paraná-Brazil. *Rev Saude Publica* 30:273–279, 1996.

Mateos Gómez, J. H. La cysticercosis cerebral en Mexico. II. Frecuencia. *Gac Med Mex* 118:2–4, 1982.

Robles, C., N. Vargas-Tentori, A.M. Sedano. Quimioterapia de la cysticercosis. Resultados de 10 años o más después del seguimiento. *Gac Med Mex* 133:127–139, 1997.

Rodriguez-Canul, R., A. Fraser, J.C. Allan, J.L. Dominguez-Alpizar, F. Argaez-Rodriguez, P.S. Craig. Epidemiological study of *Taenia solium* taeniasis/cysticercosis in a rural village in Yucatan state, Mexico. *Ann Trop Med Parasitol* 93:57–67, 1999.

Ruiz-Garcia, M., A. González-Astiazaran, F. Rueda-Franco. Neurocysticercosis in children. Clinical experience in 122 patients. *Childs Nerv Syst* 13:608–612, 1997.

Sánchez, A.L., O. Gómez, P. Allebeck, H. Cosenza, L. Ljungstrom. Epidemiological study of *Taenia solium* infections in a rural village in Honduras. *Ann Trop Med Parasitol* 91:163–171, 1997.

Sánchez, A.L., M.T. Medina, I. Ljungstrom. Prevalence of taeniasis and cysticercosis in a population of urban residence in Honduras. *Acta Trop* 69:141–149, 1998.

Sarti, E., A. Flisser, P.M. Schantz, *et al*. Development and evaluation of a health education intervention against *Taenia solium* in a rural community in Mexico. *Am J Trop Med Hyg* 56:127–132, 1997.

Sousa, A.Q., H.L. Sa, T.R. Queiroz, W.G. Horta, R.D. Pearson. Neurocysticercosis in Ceará State, northeastern Brazil: A review of 119 cases. *Am J Trop Med Hyg* 58:759–762, 1998.

Vilhena, M., M. Santos, J. Torgal. Seroprevalence of human cysticercosis in Maputo, Mozambique. *Am J Trop Med Hyg* 61:59–62, 1999.

White, A.C., Jr., P. Robinson, R. Kuhn. *Taenia solium* cysticercosis: Host-parasite interactions and the immune response. *Chem Immunol* 66:209–230, 1997.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637.)

# DIPHYLLOBOTHRIASIS

**ICD-10 B70.0**

dibothriocephaliasis bothriocephalosis, bothriocephaliasis

tapeworm

cestode (*Dibo-thriocephalus*, *Bothriocephalus*) *diphyllobothrium*

*latum*

1908 *parvum*

*nihonkaiense*

(Ohnishi and Murata, 1993)

(%0.07) *Klebanovskii*

*yonagoense* (Muratov *et al.*, 1992)

*dendriticum*

*ursi*

*dalliae*

(Curtis and Bylund, 1991)

*pacificum*

copepod

strobilar

scolex

[illegible] 12 – 3 [illegible] bothria [illegible]
[illegible] proglottid [illegible] 4.000 – 3.000 [illegible] 20 – 10 [illegible]
[illegible] pore [illegible]
[illegible]
[illegible]
[illegible]
[illegible] °20 – 15 [illegible] 15 – 10 [illegible]
[illegible] 100 – 50 [illegible] .coracidium
[illegible]
[illegible] 24
[illegible]
[illegible]
[illegible] 10 – 6 [illegible] procercoid [illegible] 20 – 10
[illegible]
[illegible]
[illegible] sparganum [illegible] plerocercoid [illegible]
[illegible]
[illegible] 1.000 [illegible]
[illegible]
[illegible] 30 – 25 [illegible]
.(Marquardt *et al.*, 2000) [illegible] 30 [illegible]

*Diaptomus* [illegible]
[illegible] *Endiaptomus* [illegible]
[illegible] *Acanthodiaptomus*
[illegible] *Boeckella* [illegible] *Eurytemora* [illegible]

[illegible] .(Vom Bom sdorff, 1977) [illegible] *cyclop* [illegible] burbot (*Lota*) [illegible] *Acerina* [illegible] (*Perca* [illegible] *Stizostedin* [illegible] (*Esox* [illegible] .(*Acerina cernua*) [illegible] (*Salmo trutta*) [illegible] (*Salmo gairdneri*) [illegible] *Oncorhynchus* [illegible] .(Bering sea) [illegible] .(Muratove,) 1990 *Salvelinus* [illegible] (curtis *et al.*, 1991) [illegible] %90 [illegible] (1993) [illegible] %27 [illegible]

[illegible] (%19) [illegible] pinnipeds [illegible]

[illegible] (*O. flavescens*) *Otaria byronia* [illegible] otariidae [illegible] (*Arctocephalus australis*) [illegible] (San Juan Fernandes) [illegible] (*Paralonchurus perunus*) croakers cocos [illegible] (Tantalean, 1975) [illegible] *Trachinotus paitensis* [illegible] (*Sciaena deliciosa*) [illegible] *Ursus arctos* [illegible] *ursus* [illegible] *Dallia pectoralis* [illegible]

[illegible] %20 [illegible] Eurasion [illegible] 1972 – 1969 [illegible] %1.8 [illegible] 5) 1973 [illegible] 9 [illegible] (von Bonsdroff, 1977; WHO, 1979) [illegible] 0.1 [illegible] 4 [illegible]

Hutchinson) [illegible]
[illegible] 1997 [illegible] 37 [illegible] .(et al., 1997
[illegible] (Chung et al., 1997) [illegible] 21 [illegible]
[illegible] 1992 [illegible] 1948 [illegible] 52.552 [illegible]
[illegible] .(Lee et al., 1994) [illegible] %0.004 [illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible] %80 – %30 [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Buoza Suarez) 1990 [illegible]
[illegible] .(et al., 1990
[illegible] 1976 – 1962 [illegible] 314 [illegible] 136
[illegible] .1995 – 1986 [illegible] 13 [illegible]
[illegible] 13 [illegible]
[illegible]
[illegible] .(Torres, 1982) [illegible]
[illegible] 1.295 [illegible] %1.2 [illegible] (1989) [illegible]
[illegible] 1.450 [illegible]
Salmo) [illegible]
10.758 [illegible] (Salmo trutta [illegible] gairdneri
[illegible] 11 [illegible]
.(Kurte et al., 1990)

[illegible] (1989) [illegible] 97 [illegible] 57 [illegible] %5.3 – %9.8 [illegible] 4 [illegible] 19 [illegible] 175 [illegible] 159 [illegible] 756 [illegible] %1.5 [illegible] (1991) [illegible] %47 [illegible] %0.3 [illegible] 1.6 [illegible] %1.7 [illegible] %2–1 [illegible] %2.8 [illegible]

[illegible] .(Curtis and Bylund, 1991) [illegible] %2 [illegible] $B_{12}$ [illegible] $B_{12}$ [illegible] 40 – 20 [illegible] 45 [illegible] (1994) [illegible]

[illegible]

[illegible] (von Bonsdrof, 1977) [illegible] (CDC, 1981) [illegible] autochthonous (Hutchinson *et al.*, 1997).

[illegible] anadromous [illegible]

45 – 40 … 75 – 55)

Abo-Shehada, M.N., Y. Ziyadeh. Prevalence of endoparasites in dog faecal deposits in Jordan. *J Helminthol* 65:313–314, 1991.

Bouza Suárez, M., G. Hormilla Manso, B. Dumenigo Ripoll, R. Quintana Olmos, R. Cordovi Prado. Primer caso de certeza de *Diphyllobothrium latum* en Cuba. *Rev Cubana Med Trop* 42:9–12, 1990.

Chung, P.R., W.M. Sohn, Y. Jung, S.H. Pai, M.S. Nam. [Five human cases of *Diphyllobothrium latum* infection through eating raw flesh of redlip mullet, *Liza haema-*

*tocheila*]. *Korean J Parasitol* 35:283–289, 1997.

Curtis, M.A., G. Bylund. Diphyllobothriasis: Fish tapeworm disease in the circumpolar north. *Arctic Med Res* 50:18–24, 1991.

Frisancho, O., V. Ulloa, W. Ruiz, *et al.* Anemia megaloblástica asociada a diarrea crónica. Estudio prospectivo y multicéntrico en Lima. *Rev Gastroenterol Peru* 14:189–195, 1994.

Hutchinson, J.W., J.W. Bass, D.M. Demers, G.B. Myers. Diphyllobothriasis after eating raw salmon. *Hawaii Med J* 56:176–177, 1997.

Kurte, C., M. Silva, E. Gajardo, P. Torres. Nuevos casos de difilobotriasis humana en Panguipulli, Chile. *Bol Chil Parasitol* 45:59–61, 1990.

Lee, S.K., B.M. Shin, N.S. Chung, J.Y. Chai, S.H. Lee. [Second report on intestinal parasites among the patients of Seoul Paik Hospital (1984–1992)]. *Korean J Parasitol* 32:27–33, 1994.

Marquardt, W.C., R.S. Demaree, R.B. Grieve. *Parasitology and Vector Biology*, 2nd ed. San Diego: Academic Press; 2000.

Muratov, I.V. [Diphyllobothriasis in the Far East of the USSR]. *Med Parazitol (Mosk)* (6):54–58, 1990.

Muratov, I.V., P.S. Posokhov, N.A. Romanenko, A.S. Zimin, G.F. Glazyrina. [The epidemiological characteristics of diphyllobothriasis caused by *Diphyllobothrium klebanovskii* in the Amur River basin]. *Med Parazitol (Mosk)* 3:46–47, 1992.

Ohnishi, K., M. Murata. Single dose treatment with praziquantel for human *Diphyllobothrium nihonkaiense* infections. *Trans R Soc Trop Med Hyg* 87:482–483, 1993.

Revenga, J.E. *Diphyllobothrium dendriticum* and *Diphyllobothrium latum* in fishes from southern Argentina: Association, abundance, distribution, pathological effects, and risk of human infection. *J Parasitol* 79:379–383, 1993.

Semenas, L., C. Úbeda. Difilobotriasis humana en la Patagonia, Argentina. *Rev Saude Publica* 31:302–307, 1997.

Tantaleán, N. Hallazgo de larvas plerocercoides de *Diphyllobothriidae luhe*, 1910 (Cestoda) en peces del mar peruano. *Bol Chile Parasit* 30:18–20, 1975.

Torres, P. Estado actual de la investigación sobre cestodos del género *Diphyllobothrium cobbold* en Chile. *Rev Med Chil* 110:463–470, 1982.

Torres, P., R. Franjola, J. Pérez, *et al.* Epidemiología de la difilobotriasis en la cuenca del Río Valdivia, Chile. *Rev Saude Publica* 23:45–57, 1989.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). *Diphyllobothriasis* associated with salmon—United States. *MMWR Morb Mortal Wkly Rep* 30:331–337, 1981.

von Bonsdorff, B. *Diphyllobothriasis in Man.* London, New York: Academic Press; 1977.

World Health Organization. *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO.* Geneva: WHO, 1979. (Technical Report Series 637).


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## DIPYLIDIASIS ǅĭΡƻǆǅǏǁ lƐǸΡ ƅƐǬ

### ICD-10 B71.1

ʔşÆʒ ÛĞÆĞŸÒöä cestode ĞÆùäÀÎöä ʔşÆʒ ÛDipylydiosis *ǆłǾÅłţă ğåşæ* öäå : ğÅʐåäÀţä ·ĞÆĞŸÒöä tapeworm ĞÆÛΛÀÎöä

ÌŀʐŭŭǕ ļè 70 – 10 ŋŸĞǩ ĞÆùäÀǐ *Dipylidium caninum* ĞÆĞŸÒöä *ǆłǾÅłţă ğåæ* : ğÅÆĞĞÊöä

[illegible] 175 – 60 [illegible] 3 [illegible] (*Ctenocephalides canis* [illegible]) (*Pulex irritans* [illegible]) (*C. felis* [illegible]) (*trichodectes canis* [illegible]) [illegible] strobila [illegible] (oncospheres [illegible]) [illegible] cysticercoids [illegible] 9.134 [illegible] (1991) [illegible] %77.5 [illegible] %98.5 [illegible] 182 [illegible] 198 [illegible] %1.6 [illegible] %2.3 [illegible] 20 [illegible]

[illegible]

[illegible] 150 [illegible] 17) [illegible] Wijesundera and Ranaweera; 1989) [illegible] Raitiere, 1992 Reid *et al.,* 1992; Neafie and Marty, 1993; Brandstetter and .(Auer, 1994

156 %45 756 %19.8 (Wachira *et al.*, 1993)
303 %13.2 (Abo-Shehada and Ziyadeh, 1991)
Jones) 315 %9.2 (Cabrera *et al.*, 1996)
(Epe *et al.*, 1993) 3.329 %1.1 (and Walters, 1992
(Deplazes *et al.*, 1995) 371
%3.8 %0.2
Umeche and) 52 %23
(Baker *et al.*, 1989) 1.502 %23 (Ima, 1988
%1.4 (Calvete *et al.*, 1998) %20.7
.(Epe *et al.*, 1993) 1.147

(Belmar, 1963)
%25

1.1 (1997)
13

[illegible]

[illegible]

[illegible] 20 – 5 [illegible] oviferous [illegible]

[illegible]

[illegible]

Abo-Shehada, M.N., Y. Ziyadeh. Prevalence of endoparasites in dog faecal deposits in Jordan. *J Helminthol* 65:313–314, 1991.

Baker, M.K., L. Lange, A. Verster, S. van der Plaat. A survey of helminths in domestic cats in the Pretoria area of Transvaal, Republic of South Africa. Part 1: The prevalence and com-

parison of burdens of helminths in adult and juvenile cats. *J S Afr Vet Assoc* 60:139–142, 1989.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Belmar, R. *Dipylidium caninum* en niños. Comunicación de 13 casos y tratamiento con un derivado de salicilamida. *Bol Chile Parasitol* 18:63–67, 1963.

Brandstetter, W., H. Auer. *Dipylidium caninum*, ein seltener Parasit des Menschen. [*Dipylidium caninum*, a rare parasite in man]. *Wien Klin Wochenschr* 106:115–116, 1994.

Cabrera, P.A., S. Parietti, G. Haran, *et al.* Rates of reinfection with *Echinococcus granulosus*, *Taenia hydatigena*, *taenia ovis* and other cestodes in a rural dog population in Uruguay. *Int J Parasitol* 26:79–83, 1996.

Calvete, C., J. Lucientes, J.A. Castillo, *et al.* Gastrointestinal helminth parasites in stray cats from the mid-Ebro Valley, Spain. *Vet Parasitol* 75:235–240, 1998.

Deplazes, P., F. Guscetti, E. Wunderlin, H. Bucklar, J. Skaggs, K. Wolff. Endoparasitenbefall bei Findel- und Verzicht-Hunden in der Sudschweiz. [Endoparasite infection in stray and abandoned dogs in southern Switzerland]. *Schweiz Arch Tierheilkd* 137:172–179, 1995.

Epe, C., S. Ising-Volmer, M. Stoye. Ergebnisse parasitologischer Kotuntersuchungen von Equiden, Hunden, Katzen und Igeln der Jahre 1984–1991. [Parasitological fecal studies of equids, dogs, cats and hedgehogs during the years 1984–1991]. *Dtsch Tierarztl Wochenschr* 100:426–428, 1993.

Jones, A., T.M. Walters. A survey of taeniid cestodes in farm dogs in mid-Wales. *Ann Trop Med Parasitol* 86:137–142, 1992.

Hinaidy, H.K. Beitrag zur Biologie des Dipylidium caninum. 2. Mitteilung. [The biology of Dipylidium caninum. Part 2]. *Zentralbl Veterinarmed [B]* 38:329–336, 1991.

Marx, M.B. Parasites, pets, and people. *Prim Care* 18:153–165, 1991.

Neafie, R.C., A.M. Marty. Unusual infections in humans. *Clin Microbiol Rev* 6:34–56, 1993.

Raitiere, C.R. Dog tapeworm (*Dipylidium caninum*) infestation in a 6-month-old infant. *J Fam Pract* 34:101–102, 1992.

Reid, C.J., F.M. Perry, N. Evans. *Dipylidium caninum* in an infant. *Europ J Pediatr* 151:502–503, 1992.

Tanowitz, H.B., L.M. Weiss, M. Wittner. Diagnosis and treatment of intestinal helminths. Common intestinal cestodes. *Gastroenterologist* 1:265–273, 1993.

Umeche, N., A.E. Ima. Intestinal helminthic infections of cats in Calabar, Nigeria. *Folia Parasitol (Praha)* 35:165–168, 1988.

Wachira, T.M., M. Sattran, E. Zeyhle, M.K. Njenga. Intestinal helminths of public health importance in dogs in Nairobi. *East Afr Med J* 70:617–619, 1993.

Wijesundera, M.D., R.L. Ranaweera. Case reports of *Dipylidium caninum*, a pet associated infection. *Ceylon Med J* 34:27–30, 1989.

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## HYDATIDOSIS ăþƐợyƗƐ ƅƐợƗƐ

### ICD-10 B67 Echinococcosis ƖƒƖǋƪǆƗƐ ƅƐợ ICD-10 B67

·ǦΛøäÆȞöä ǦÊÆÒöä Ûhydatid disease ɃøäÆȞöä ŏäÆöä ÛǦƐǦΣä ğÅõʐÎţä ŏäå :ğÅʐåäÀţä

[illegible] *oligarthrus* [illegible] *multilocularis* [illegible] *vogeli* [illegible] hook [illegible] 22 [illegible] 6 – 3 [illegible] 18 [illegible] 6 [illegible] (hexacanth [illegible]) [illegible] cervids [illegible] 250 [illegible] 3 [illegible] 1 [illegible] (unilocular [illegible]) [illegible] brood [illegible] protoscolices [illegible]

[illegible] canid [illegible] 61 – 47 [illegible] polytypic [illegible] (*Rangifer*, *Alces*) [illegible] (Schantz, 1982) [illegible] (wallaby Thompson and) [illegible] (Kumaratilke, 1982 [illegible]

camelid [illegible] procine [illegible] Rinder) [illegible] .(Rozenzvit *et al.*, 1999) [illegible] .(*et al.*, 1997

*alveolaris* [illegible] 3.7 – 1.2 [illegible] .*sibiricensis* [illegible] 23 [illegible] 27 [illegible] (*lagopus Alopex*) [illegible] .(*vulpes vulpes*) [illegible] .*Lemmus* [illegible] *Microtus* [illegible] *Clethrionomys* [illegible] 60 [illegible] 33 [illegible]

[illegible] 3 – 2 [illegible] 26 [illegible] 33 .jaguarundis [illegible] agouti *Dasyprocta* [illegible]

ÛÅÆŘΛÜ ğÅΛæ ğÅęÅΛ *ŎöÅÅţä ĞÝÆÝÕää Ğõʐ ÎŧÝö* ĞΛøäÆĤöä ĞÊÆÒöä ŌÒÎǩ ·ĞÝŧQŢ ʔÅňÜ ôøäʐę Ƙɖ ɄĿş ÛɈÅÊφɋä Ž gÅΛÂɖ ĞÆəÆæ ğÅÊΛŰø ɜɳ ŌəÅÊæ gŏʐÝư gƘĞõ ĞÆDZøÅň ɄĿ ɄøQöäş ÅŢΛÆö ɄøQöäş ÛĞΛäÅ8öä Ƙɖ ĞÊÆÒöä ÇØĿ ʔɜÆǩ ·*ȸõÅÊţä gÆΛÆĤöä Ğõʐ ÎŧÝö* ɄøQöÅõ ĞΛäÅɖ ·gåÅɜ "*ğÅÊÆÒöä gÆΛÆĤöÅæ*" gÅΛÂɖ ĞÆəÆæ ğÅÊΛŰøş gÆΛÆɜ ĞÆDZøÅň äÅÆgÜ gƘĞõ gøÅΛò 42 ÅŢΛÆöş ÅŧʐÜ ɭɳ 5.6 – 3.9 *ĞÆÝɖʐÅöä Ğõʐ ÎŧÝö* ɳöÅĞöä ŌÒÎöä ÈÆŌΛ *Speothos* ɄÝɖÆöä ÆÆÔöä ÆÝõ) ɃÅæ canid ɄøĞÝõ Ž ğÆDZş Æęş gƘ8ò gøÅΛò 33ş ·ɄÝǂä ôøÅÕöä ʐĿ Ùèʐ Qţä Ƀʐǰöä ·ƘÅDZøɉä òÅɜ ƂÜ ÅŧÅæ ȸɳ ÆQʐ ɃØöäş (*venaticus* ɄĿ *ĞÆÝɖʐÅöä Ğõʐ ÎŧÝö* ĞΛøäÆĤöä ĞÊÆÒöä ·paca ĞõÅĞöÅæ 8şÅĤţä Û*Cuniculus paca* āʐęÅΛöä åÆɜ ĘΛÅü ȸɜ *ŎöÅÅţä ĞÝÆÝÕää Ğõʐ ÎŧÝö* ĞΛøäÆĤöä ĞÊÆÒöä ȸɜ ÂÆŧQǩş ÛğÅÊÆÒöä gÆΛÆɜ ÅŘΛÜ ·ĞÆəÆĞöä ğÅÊΛŰÅöäş ƘφÅΛÔöä ŌÒĭş

ŌÒÎæ ĞÆΛüʐǩ ğäæ ĘüÅΛɳ ɜɳ ÛÅøÅÎQφä ţäʐφɉä ÅǰõÜ *ĞÆĞΣä Ğõʐ Îţä* :ŽäÅ8ƨä ţäʐQöä Û(ɃäʐɖşøɉäÛşƘĞöä ÛɄÝÆÎǩ ÛŌΛäÆɜöä āʐÅDZ ÛƘQÅDZøɉä) ĞÆæʐÅƨä ÅÒΛÅɳÜ āʐÅDZ Ž ƂÅɜ ÛÅÆöÅÛΛÜ ÛɈÅφʐÆöä ÛÅÊφÅʐ āʐÅDZ Û ĭ ɜę ÛÅΛøÅ8Ýæ ĞòÅň ÛÙèʐQţä ŘÆæɉä ÅĦĞöä Ōgåè ÛĘæÅÊöä ɄøǩÅÆʐʐÊöä åÅƠɋä ȸɳ ɄøæʐÅƨä õÅƨä ÛÅÆʐƳÊɖʐÅş ÅÆφÅĞèÜ ÛÅÆφÅɳşø ÛòÅ8ǩÅæ ÛāÅ8ţä ÛÅəäÅƨä) ÅÆÕΛÅʐÜ òÅɜ Û(ÅÆõÅǩ ÛàäÅĤöä ÛɈäÅΛÜ) ÅÆèÜ āÅɖ āʐÅDZ Ùèşɉä àÅÎöä ÇØĿ Ž ÅÅňúɳ ûʐĦÝɳ ŌÒÎæ ţʐęʐöä ÒęÅΛǩş ·äÆÅɖşÜ ÛÅÆΛÆõ ÛäÆÅÝΛäʐÆφ ÛÅÆöäÅQèÜ (Èφʐǩ ·ĞĦʐÅÒţä ɟɳäÅæ ÆĞÊæ ɉäÆÝĞöä

Ž ɄÝÆÅÛöä ŏäÆöä ϙÆɜ ·ƂÅŧÎöä gÅÒöä ƷÔÅæ åşÆŢ *ȸõÅÊţä gÆΛÆĤöä Ğõʐ Îţä* ţäʐǩ ɄÝÆÎǩ Ùèşş ÆΛŢä òÅɜş àäÅĤöäş ÅÆõÅǩş ĘæÅÊöä ɄøǩÅÆʐʐÊöä åÅƠɍäş Åæşøşü àÅĭş Ùèş Ž ĞÆöÅɜ ĞΛÅõÅɳ gÆɜ ğÅΛɍşş ÅÒèɍÜş äÆΛõ Ž ğÅΛɍʐöä ŘĤæş ɉÅæÅÆöä øÂDZ ŘĤæş (ĞÆĞÛŌöä ŏäåÅƨä òʐŢÊöä) ğäøÆΛQöä ɄĿ ĞÆƵÜ ÅǰõɉäĞφʐüʐţä ĘüÅΛţä ·gÆĦQţä ğÅΛɍʐöä ʔÛèʐöä ÅÆèÜ ğÅΛøʐŢƤ ƂÜ ĞʐÅȑɋÅæ ÛɄÒΛÅɳɉä ÅĿåäÆQɳäş ÅÆèÜş Åæşøşɉ ĞÆöÅŧÎöä tundras *ȸõÅÊţä gÆΛÆĤöä Ğõʐ ÎţÅæ* ʔşÆĤöä ϙÆƠ ·ʔÛèʐöä ƘÔöäş ÛĘæÅÊöä ɄøǩÅÆʐʐÊöä åÅƠɍä ȸɳ äÅÊΛʐè ÛäÆΛöʐæ ÛĥøʐĞŧÊõʐö ÛȸΛÅQÎΛÆÎÆö ÛÅÆφÅţÜ ÛÅÊφÅʐ ÛÅÒÆDZÝæ ÛÅÆöäÅQèÜ ÛÅæşøşÜ Ž

[illegible] (Eckert, 1996) [illegible]

[illegible] (Salinas-López *et al.*, 1996) [illegible]

[illegible] Serra Canales *et al.*,) [illegible] (1999 [illegible] (Arámbulo, 1997) [illegible] 100.000 [illegible] 20 [illegible] 7.8 – 7.9 [illegible] 2.0 [illegible] 1.0 [illegible]

407 %9.1 (Andez)
104 %32 117 %87 (Western blot
(Moro *et al.*, 1997) 1980
100.000 48 – 18 38
%15 %40
Gutierrez *et*) 300.000
(*al.*, 1992
100.000 11.4 6.5 1994 – 1985
(Serra Canales *et al.*, 1999)
(100.000 26.7) 16 1994
(Larrieu *et al.*, 1996) %2.3 %1.3
9.515 (%1.6) 156
(Carmona *et al.*, 1998)
115.819
(100.000 310) 359 1970 1947
53.014 (100.000 204) 108
40 – 25

(%89) 28 25 1995

19

26,065

1980 1990 1951

%71 – %7 %90 – %3.3 %4.5 – %0.5

(Chai, 1995)

(Watson-Jones *et al.*, 1997) 334 %5.2

20.220 399

(%69) 233 (%1.7)

(Shambesh *et al.* 1999)

100.000 2.3 100.000 1.2

1980 1970 91

%1

Romig *et al.*,) Eurasia 1990

%50 – %1 (1999

1.4 0.02 (%1>)

[illegible] 100.000 Eckert,) [illegible] %90 [illegible] 606 [illegible] 1990 [illegible] (1996 [illegible] %8.8 [illegible] %65 [illegible] %10 [illegible] (%5) [illegible] 1.312 [illegible] 7 [illegible] 584 [illegible] (Graig *et al.,* 1992) .(Jiang, 1998) %5 – %2.4 [illegible] %19.2 – %2.8 [illegible] 1998 [illegible] 86 [illegible] 3 [illegible] 32 [illegible] 51 [illegible] .(Basset *et al.*, 1998) [illegible] .(D’Alessandro, 1997)

[illegible] %30 [illegible] %95 – %20 [illegible]

[illegible] (%0.29) [illegible] %20 [illegible]

[illegible] %6 [illegible]

[illegible] %10 [illegible] %2 [illegible]

[illegible] 425 [illegible] 96 [illegible] (Rausch *et al.*, 1981) [illegible]

[illegible] 190.000 [illegible]

(1996)

(%58) (%60)

(%65) (%66) (%46)

25

39

%1.6

(1999)

32 40

%1

8

%74 (%74) (Jiménez-Mejías *et al.*, 1991)

[illegible] 33 [illegible] 30 [illegible] 53 [illegible] 72 [illegible] %80 [illegible] (1997) [illegible] *vogeli* [illegible] %25 [illegible] %10 [illegible] (1992) [illegible] *vogeli* [illegible] 6) [illegible] %60 [illegible] 6 [illegible] %40 [illegible]

[illegible] (Barriga and Al-khalidi, 1986) [illegible]

[illegible] %10 [illegible]

[illegible] 10 – 6 [illegible]

(800 – 200 [illegible]) [illegible] .(Lawson and Gemmell, 1983) [illegible]

[illegible] Lawson and Gemmell,) [illegible] °21 – 10 [illegible] 32 [illegible] °6 [illegible] 225 [illegible] °30 [illegible] 80 [illegible] 10 [illegible] .(1983 [illegible]

150.000

1.500 (Macpherson, 1983)

1980 1965

100.000 220

(French and Nelson, 1982) 100.000 18

(Yarzábal and Capron, 1971)

111

154 %60

(*Canis lupus*)

(Dusicyon

(Vulpes، Alopex

(arvicoline، microtine

arvicoline

943، 2.4%

(Arvicola terrestris scheman)

23، 2، 4.6%، 0%

Vulpes) 70، 8.5%، (8.6%)

10، (vulpes

.(Pétavy and Deblock, 1983)

[illegible] (Suwan, 1995) [illegible] electrosyneresis [illegible] ELISA [illegible] arc 5 [illegible] ELISA [illegible] respective [illegible] arc 5 [illegible] (1995) [illegible] %96.6 [illegible] %86 [illegible] %79 arc 5 [illegible] %97 [illegible] %93 [illegible] (Helbig *et al.*, 1993) %99 [illegible] %89 [illegible] (%96.5) [illegible] 29 [illegible] 28 [illegible] (1995)

176 26 1996 (%35.2) Coltorti and)

(Cammarieri, 1993 Poretti et) %97 – %94 %82 (al., 1999

(Kern et al., 1995)

(arecoline hydrobromide %65

(Barriga and Al-khalidi, 1986)

(Gasser et al., 1994) %61

%95 [illegible] %94 [illegible] %100 [illegible] %93 [illegible] %80 [illegible] %99 [illegible] .(Deplazes and Eckert, 1996) [illegible]

[illegible] 1 [illegible] 2 [illegible] 3 [illegible] 4 [illegible] 5 [illegible]

[illegible] 1971 [illegible] 4 [illegible] 3 [illegible] 45.000 [illegible] 1985 [illegible] %20 [illegible] 1993 – 1996 [illegible] 1966 – 1965 [illegible] 12.6 [illegible] %52.2 [illegible] 1982 – 1981 [illegible] %0.09 [illegible] 1982 [illegible] %4 [illegible] 1982 – 1981 [illegible] %0.7 [illegible] 1967 – 1966 [illegible] (1973, [illegible]) [illegible]

(1990).

(Economides *et al.*, 1998)

6.5 :1962 – 1950

1985 1971 1.000

1983 100.000 2

1995

(Todorov and Boeva, 1999)

.(Moro *et al.*, 1997)

%4.2 %41.5 1992 1979

10 %13 %61

.(Larrieu *et al.*, 1994) 100.000 4.5 100.000 64

[illegible] 1995 [illegible] 1992 [illegible] (Chai, 1995).

[illegible] (Lightowlers *et al.*, 1996). [illegible]

[illegible]

## [illegible]


Arámbulo, P., III. Public health importance of cystic echinococcosis in Latin America. *Acta Trop* 67:113–124, 1997.

Arienti, H.M., S.I. Guignard, D.E. Rinaldi, O.C. Elbarcha. Comparación de dos métodos serológicos para el diagnóstico de hidatidosis. *Bol Of Sanit Panam* 121:221–227, 1996.

Australia. Department of Health Services. Department of Agriculture. *Tasmanian Hydatid Disease Newsletter*. Nov. 1973.

Barriga, O.O., N.W. Al-Kalidi. Humoral immunity in the prepatent primary infection of dogs with *Echinococcus granulosus*. *Vet Immunol Immunopathol* 11:375–389, 1986.

Basset, D., C. Girou, I.P. Nozais, *et al.* Neotropical echinococcosis in Suriname: *Echinococcus oligarthrus* in the orbit and *Echinococcus vogeli* in the abdomen. *Am J Trop Med Hyg* 59:787–790, 1998.

Carmona, C., R. Perdomo, A. Carbo, *et al.* Risk factors associated with human cystic echinococcosis in Florida, Uruguay: Results of a mass screening study using ultrasound and serology. *Am J Trop Med Hyg* 58:599–605, 1998.

Chai, J.J. Epidemiological studies on cystic echinococcosis in China—a review. *Biomed Environ Sci* 8:122–136, 1995.

Coltorti, E., G. Cammarieri. Inmunodiagnóstico de hidatidosis: evaluación de antígenos de líquido hidatídico y de líquido vesicular de cisticerco de *Taenia crassiceps*. *Rev Inst Med Trop Sao Paulo* 35:155–162, 1993.

Craig, P.S., L. Deshan, C.N. Macpherson, *et al.* A large focus of alveolar echinococcosis in central China. *Lancet* 340:826–831, 1992.

D'Alessandro, A. Polycystic echinococcosis in tropical America: *Echinococcus vogeli* and *E. oligarthrus*. *Acta Trop* 67:43–65, 1997.

Deplazes, P., J. Eckert. Diagnosis of the *Echinococcus multilocularis* infection in final hosts. *Appl Parasitol* 37:245–252, 1996.

Donovan, S.M., N. Mickiewicz, R.D. Meyer, C.B. Panosian. Imported echinococcosis in southern California. *Am J Trop Med Hyg* 53:668–671, 1995.

Eckert, J. [The "dangerous fox tapeworm" (*Echinococcus multilocularis*) and alveolar

echinococcosis of humans in central Europe]. *Berl Munch Tierarztl Wochenschr* 109:202–210, 1996.

Economides, P., G. Christofi, M.A. Gemmell. Control of *Echinococcus granulosus* in Cyprus and comparison with other island models. *Vet Parasitol* 79:151–163, 1998.

French, C.M., G.S. Nelson. Hydatid disease in the Turkane District of Kenya. II. A study in medical geography. *Ann Trop Med Parasitol* 76:439–457, 1982.

Gasser, R.B., L. Parada, A. Acuña, *et al.* Immunological assessment of exposure to *Echinococcus granulosus* in a rural dog population in Uruguay. *Acta Trop* 58:179–185, 1994.

Gemmell, M.A. Australasian contributions to an understanding of the epidemiology and control of hydatid disease caused by *Echinococcus granulosus*—past, present and future. *Int J Parasitol* 20:431–456, 1990.

Gutierrez, R., J. Inostroza, C. Oberg, *et al.* Hidatidosis en la IX Region de Chile. Un problema y desafio regional. *Rev Med Chile* 120:311–316, 1992.

Helbig, M., P. Frosch, P. Kern, M. Frosh. Serological differentiation between cystic and alveolar echinococcosis by use of recombinant larval antigens. *J Clin Microbiol* 31:3211–3215, 1993.

Hernando, E., J.L. García Calleja, E. Córdoba, L. Lahuerta, F. del Río, V. Ferreira. Hidatidosis hepática. Revisión de una serie de 677 pacientes intervenidos quirúrgicamente. *Gastroenterol Hepatol* 19:140–145, 1996.

Hueto Pérez de Heredia, J., M. Pérez de las Casas, J. Domínguez del Valle, *et al.* Hidatidosis torácica. Nuestra experiencia en los últimos quince años. *Rev Clin Española* 199:13–17, 1999.

Jiang, C. Alveolar echinococcosis in China. *Chin Med J (Engl)* 111:470–475, 1998.

Jiménez-Mejías, M.E., E. Castillo-Ojeda, J.A. Cuello Contreras, *et al.* Hidatidosis cerebral. Análisis de una serie de 23 casos. *Med Clin Barc* 97:125–132, 1991.

Kern, P., P. Frosch, M. Helbig, *et al.* Diagnosis of *Echinococcus multilocularis* infection by reverse-transcription polymerase chain reaction. *Gastroenterology* 109:596–600, 1995.

Larrieu, E., M.T. Costa, G. Cantoni, *et al.* Control de la hidatidosis en la provincia de Río Negro, Argentina: evaluación de actividades de atención veterinaria (1). *Rev Sanid Hig Publica* 68:197–202, 1994.

Larrieu, E., R. Lamberti, J. Casaza, *et al.* Hidatidosis/equinococosis en el área de General Acha, Provincia de la Pampa, Argentina. *Bol Chil Parasitol* 51:95–97, 1996.

Lawson, J.R., M.A. Gemmell. Hydatidosis and cysticercosis: the dynamics of transmission. *Adv Parasitol* 22:261–308, 1983.

Lightowlers, M.W., S.B. Lawrence, C.G. Gauci, *et al.* Vaccination against hydatidosis using a defined recombinant antigen. *Parasite Immunol* 18:457–462, 1996.

Macpherson, C.N. An active intermediate host role for man in the life cycle of *Echinococcus granulosus* in Turkane, Kenya. *Am J Trop Med Hyg* 32:397–404, 1983.

Meneghelli, U.G., A.L. Martinelli, M.A. Llorach Velludo, A.D. Bellucci, J.E. Magro, M.L. Barbo. Polycystic hydatid disease (*Echinococcus vogeli*). Clinical, laboratory and morphological findings in nine Brazilian patients. *J Hepatol* 14:203–210, 1992.

Moro, P.L., J. McDonald, R.H. Gilman, *et al.* Epidemiology of *Echinococcus granulosus* infection in the central Peruvian Andes. *Bull World Health Organ* 75:553–561, 1997.

Navarrete, N., M.I. Jersic, R. Denis. Comparación de tres técnicas en el diagnóstico serológico de la hidatidosis humana. *Bol Chil Parasitol* 50:97–100, 1995.

Pétavy, A.F., S. Deblock. [The Auvergnan focus of alveolar echinococcosis. Research on the intermediate host, description of the lesions]. *Ann Parasitol Hum Comp* 58:439–453, 1983.

Poretti, D., E. Felleisen, F. Grimm, *et al.* Differential immunodiagnosis between cystic hydatid disease and other cross-reactive pathologies. *Am J Trop Med Hyg* 60:193–198, 1999.

Rausch, R.L., A. D'Alessandro, V.R. Rausch. Characteristics of the larval *Echinococcus vogeli* Rausch and Bernstein, 1972 in the natural intermediate host, the paca, *Cuniculus paca* L. (Rodentia: Dasyproctidae). *Am J Trop Med Hyg* 30:1043–1052, 1981.

Rinder, H., R.L. Rausch, K. Takahashi, H. Kopp, A. Thomschke, T. Loscher. Limited range of genetic variation in *Echinococcus multilocularis*. *J Parasitol* 83:1045–1050, 1997.

Romig, T., B. Bilger, U. Mackenstedt. [Current spread and epidemiology of *Echinococcus multilocularis*]. *Dtsch Tierarztl Wochenschr* 106:352–357, 1999.

Rozenzvit, M.C., L.H. Zhang, L. Kamenetzky, S.G. Canova, E.A. Guarnera, D.P. McManus. Genetic variation and epidemiology of *Echinococcus granulosus* in Argentina. *Parasitology* 118 (Pt 5):523–530, 1999.

Salinas-López, N., F. Jiménez-Guzman, A. Cruz-Reyes. Presence of *Echinococcus oligarthrus* (Diesing, 1863) Luhe, 1910 in *Lynx rufus texensis* Allen, 1895 from San Fernando, Tamaulipas state, in north-east Mexico. *Int J Parasitol* 26:793–796, 1996.

Sánchez, G.A., C. De Bernard, O.E. Sousa. Hidatidosis poliquística hepática. Informe clínico e histopatológico del segundo caso de equinococosis autóctono en la Republica de Panama. *Rev Med Panama* 17:3–11, 1992.

Schantz, P.M. Echinococcosis. *In*: Jacobs, L., P. Arámbulo III, section eds. Section C, vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Serra Canales, I., V. García L., A. Pizarro G., A. Luzoro V., G. Cavada C., J. López C. Un método universal para corregir la subnotificación en enfermedades transmisibles. Incidencia real de la hidatidosis humana en Chile: 1985–1994. *Rev Med Chile* 127:485–492, 1999.

Shambesh, M.A., P.S. Craig, C.N. Macpherson, M.T. Rogan, A.M. Gusbi, E.F. Echtuish. An extensive ultrasound and serologic study to investigate the prevalence of human cystic echinococcosis in northern Libya. *Am Trop Med Hyg* 60:462–468, 1999.

Suwan, Z. Sonographic findings in hydatid disease of the liver: Comparison with other imaging methods. *Ann Trop Med Parasitol* 89:261–269, 1995.

Thompson, R.C., L.M. Kumaratilake. Intraspecific variation in *Echinococcus granulosus*: the Australian situation and perspectives for the future. *Trans R Soc Trop Med Hyg* 76:13–16, 1982.

Todorov, T., V. Boeva. Human echinococcosis in Bulgaria: A comparative epidemiological analysis. *Bull World Health Organ* 77:110–118, 1999.

Watson-Jones, D.L., P.S. Craig, D. Badamochir, M.T. Rogan, H. Wen, B. Hind. A pilot, serological survey for cystic echinococcosis in north-western Mongolia. *Ann Trop Med Parasitol* 91:173–177, 1997.

Wilson, J.F., R.L. Rausch. Alveolar hydatid disease. A review of clinical features of 33 indigenous cases of *Echinococcus multilocularis*. Infection in Alaskan Eskimos. *Am J Trop Med Hyg* 29:1340–1355, 1980.

Yarzábal, L.A., A. Capron. Aportes de la inmunoelectroforesis al diagnóstico inmunológico de la hidatidosis. *Torax* 20:168–174, 1971.

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## HYMENOLEPLIASIS

### ICD-10 B71.0

*Hymenolepis nana* … *H. diminuta* … *fraterna* …

[illegible] $4-2.5$ [illegible] 200 [illegible] scolex [illegible] 180 – 80 [illegible] cysticercoid [illegible] cysticercoid [illegible] cysticercoid [illegible] 30 [illegible]

[illegible] 4 [illegible] 60 – 20 [illegible] 1.000 [illegible] (*Nosopsyllus* [illegible] *Xenopsyllus* [illegible]) [illegible] (*Tribolium* [illegible] *Tenebrio* [illegible]) [illegible]

[illegible] 1961 [illegible] 2.426 [illegible] %49.6 [illegible] 1971 [illegible]

%0.24 ... 3
Mason) ... 351 ... %18 ... 315 ...
Rodríguez and) ... 110 ... %21 (and Patterson, 1994
%8.8 (Khalil *et al.*, 1991) ... 1.800 ... %16 (Calderón, 1991
Guimarães *et al.*,) ... 147 ...
(Cancrini *et al.*, 1988) ... 381 ... %8.7 (1995
... 100 ... %2 (Kaminsky, 1991) ... 266 ... %8
... 146 ... %2 (Makhlouf *et al.*, 1994) ...
Agi,) ... 280 ... %0.4 (Kabani *et al.*, 1995)
(Navarrete and Torres, 1994) ... 219 ... %0.4 (1995
... 216.275 ... %0.4
Soul ... 52.552 ... 0.03% (Kappus *et al.*, 1991)
... 3 ... %0.008 (Lee *et al.*, 1994) ...
.(Suárez Hernández *et al.*, 1998) 1995 1981 ...

...
...
... 7.8 ...
... %14.5 ... 128
...

...
... (*Rattus norvigicus*) ... 43 ... 14 ...
... 200 ...
... 6 ...
... 1999 1989

[illegible] 1.050 [illegible] %3 [illegible] 70.000 [illegible] 900 [illegible] %4 [illegible]

[illegible] %62 [illegible] %84 [illegible] 200 [illegible] .(Khalil *et al.*, 1991) [illegible] 325 [illegible] 250 [illegible] .(Romero-Cabello *et al.*, 1991) [illegible] Suárez Hernández) [illegible] .(*et al.*, 1998 [illegible] %30 [illegible] %5 [illegible] prepatent [illegible] .4 – 2

[illegible]

[illegible] (Kaminsky, 1991) [illegible] .(Mason and Patterson, 1994) [illegible]

[illegible] (*Tenebrio* and *Tnibolium* [illegible]

[illegible]

45 … 38 … 60 … 89

(Montenegro *et al.*, 1994) … 1991 … %83 … %79 … 90 … (%35) … (%28)

.(Allan *et al.*, 1990)

1989

[illegible] %80 – %75 praziquantel [illegible] *Esterobius vermicularis* [illegible] (Ito. 1997) [illegible]

[illegible]

Agi, P.I. Pattern of infection of intestinal parasites in Saghana community of the Niger Delta, Nigeria. *W Afr J Med* 14:39–42, 1995.

Allan, J.C., G. Ávila, J. García Noval, A. Flisser, P.S. Craig. Immunodiagnosis of taeniasis by coproantigen detection. *Parasitology* 101 Pt 3:473–477, 1990.

Cancrini, G., A. Bartoloni, L. Núñez, F. Paradisi. Intestinal parasites in the Camiri, Gutierrez and Boyuibe areas, Santa Cruz Department, Bolivia. *Parassitologia* 30:263–269, 1988.

Castillo, R.M., P. Grados, C. Carcamo, *et al.* Effect of treatment on serum antibody to *Hymenolepis nana* detected by enzyme-linked immunosorbent assay. *J Clin Microbiol* 29:413–414, 1991.

Ferreti, O., F. Gabriele, C. Palmas. Development of human and mouse strain of *Hymenolepis nana* in mice. *Int J Parasitol* 11:425–430, 1981.

Guimarães, S., M.L. Sogayar. Occurrence of *Giardia lamblia* in children of municipal day-care centers from Botucatu, São Paulo State, Brazil. *Rev Inst Med Trop Sao Paulo* 37:501–506, 1995.

Ito, A. Basic and applied immunology in cestode infections: from *Hymenolepis* to *Taenia* and *Echinococcus*. *Int J Parasitol* 27:1203–1211, 1997.

Kabani, A., G. Cadrain, C. Trevenen, T. Jadavji, D.L. Church. Practice guidelines for ordering stool ova and parasite testing in a pediatric population. The Alberta Children's Hospital. *Am J Clin Pathol* 104:272–278, 1995.

Kaminsky, R.G. Parasitism and diarrhoea in children from two rural communities and marginal barrio in Honduras. *Trans R Soc Trop Med Hyg* 85:70–73, 1991.

Kappus, K.K., D.D. Juranek, J.M. Roberts. Results of testing for intestinal parasites by state diagnostic laboratories, United States, 1987. *Morb Mortal Wkly Rep CDC Surveill Summ* 40:25–45, 1991.

Khalil, H.M., S. el Shimi, M.A. Sarwat, A.F. Fawzy, A.O. el Sorougy. Recent study of *Hymenolepis nana* infection in Egyptian children. *J Egyp Soc Parasitol* 21:293–300, 1991.

Kosoff, P., F. Hernandez, V. Pardo, M. Visconti, M. Zimmerman. Urban helminthiasis in two socioeconomically distinct Costa Rican communities. *Rev Biol Trop* 37:181–186, 1989.

Lee, S.K., B.M. Shin, N.S. Chung, J.Y. Chai, S.H. Lee. [Second report on intestinal parasites among the patients of Seoul Paik Hospital, 1984–1992]. *Korean J Parasitol* 32:27–33, 1994.

Makhlouf, S.A., M.A. Sarwat, D.M. Mahmoud, A.A. Mohamad. Parasitic infection among children living in two orphanages in Cairo. *J Egyp Soc Parasitol* 24:137–145, 1994.

Mason, P.R., B.A. Patterson. Epidemiology of *Hymenolepis nana* infections in primary school children in urban and rural communities in Zimbabwe. *J Parasitol* 80:245–250, 1994.

Montenegro, T., R.H. Gilman, R. Castillo, *et al.* The diagnostic importance of species specific and cross-reactive components of *Taenia solium*, *Echinococcus granulosus*, and *Hymenolepis nana*. *Rev Inst Med Trop Sao Paulo* 36:327–334, 1994.

Navarrete, N., P. Torres. Prevalencia de infección por protozoos y helmintos intestinales en escolares de un sector costero de la provincia de Valdivia, Chile. *Bol Chil Parasitol* 49:79–80, 1994.

Rodríguez, J., J. Calderón. Parasitosis intestinal en pre-escolares de Tarapoto. *Rev Gastroenterol Peru* 11:153–160, 1991.

Romero-Cabello, R., L. Godínez-Hana, M. Gutiérrez-Quiroz. Aspectos clínicos de la himenolepiasis en pediatría. *Bol Med Hosp Infant Mex* 48:101–105, 1991.

Suárez Hernández, M., E. Bonet Couce, M. Díaz González, I. Ocampo Ruiz, I. Vidal García. Estudio epidemiológico de la infección por *Hymenolepis nana* en la provincia de Ciego de Ávila, Cuba. *Bol Chil Parasitol* 53:31–34, 1998.


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## INERMICAPSIFERIASIS ƀŰŖƴƛ ƕƬƬƻƉǁƛ ƀƐƣ

**ƕĭYǊǆŰ ƕĭƯƐþ˥ ǌǊƣY ICD-10 B17.9**
**ICD-10 B17.9 Cestode infection, unspecified**

*Inermicapsifer ǴĂÖĨǭÆţä ǒɟÂĤöä ǴÔÔÀţä* ƶȽ ʔşÆĤöä ȻØT ÆĢÊţä ŎŋÂĤöä ːğ ÅĒĢÊöä

*cubensis* *madagascariensis*
350 2.3 42 – 27 (*arvicanthidis*
scolex *Raillietina*

53 – 49 175 – 150

(1963)

(*Arvicanthis*)

2 – 1 (1949 100
.(Conzález Núñez *et al.*, 1996) 1989

[illegible]

[illegible]

Belding, D.L. *Textbook of Clinical Parasitology*, 3rd ed. New York: Appleton-Century-Crofts; 1965.

Faust, E.C., P.F. Russell, R.C. Jung. *Craig and Faust's Clinical Parasitology*, 8th ed. Philadelphia: Lea & Febiger; 1970.

González Núñez, I., M. Díaz Jidy, F. Núñez Fernández. Infección por *Inermicapsifer madagascariensis* (Davaine, 1870); Baer, 1956. Presentación de 2 casos. *Rev Cubana Med Trop* 48:224–226, 1996.

Kouri, P., J.G. Basnuevo, F. Sotolongo. *Manual de parasitología. Tomo I: Helmintología humana*. Havana; 1963.

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## MESOCESTOIDIASIS [illegible]

[illegible] **ICD-10 B71.9**

**ICD-10 B71.9 Cestode infection, unspecified**

*Mesocestiodes lineatus* [illegible] *M. variabilis* [illegible] 2 [illegible] 40 [illegible] *tetrathyrid-* [illegible] *tetrathyridium* [illegible] *ium* acetabula [illegible]

ʔŸȝ ğşŸȝ ·(ÆΛåÄṅüæ ǐDZÄȚ) ĞĒφÄÊĒȮŸö bothria ƙǪÊΛʐȞöä ȸȝ ÄṙʐȝÛȸÅǪjä ĞΛÄȚΛöä ʔŸȝ Äɼʐü ӯÄÊÕφɼÄæ Ƀʐǰöä Ž ÄĒÊΛDZ ɼ Ȥȝ ÄȒǪΛ jÜ *tetrathyridium* øöä ȝĒÛǪÊΛ ·Õöæ Ûā ŸȮöä ·jʐȮǩ Æȩ ȸȮöş ÜɄÊĒəø ŌȮÎæ ô øäʐŌöä ɄŁ ĞÛèʐǪţä öÄΛʐǪjä ·lengthwise ȔÛŌöä Ōǰŋ − ğ ÄĒΛÆǰöä ȒȞæ Ƀşúǩ Æȩ ·ÄȒΛÜ ȤğäşÂöäş Ûğ ÄĒəÄŋƎöä Ûøʐ ĒÛöä ÛȔÛŌöä jäʐĒğ ǐΣ ɄəÄȚΛöä Ƀʐǰöä ȝŸǪĞΛ ÄŋÆΛȝ ·*tetrathyridium* øöäş Ğ8öÄĞöä ĞĒüäÄÎöä Ûā ŸȮöäş ȯŸṅ Ƀʐǰöä öÄȞŋÜ Ž Ğ8öÄæ ĞĒüäÄì БÜ øʐÛǪΛ ɄȩǨöä ŌȮÎöä jüʐ ɄȩǨöä ŌȮÎöÄæ ʔÆȞÄŋ ·ȝĒäÄèÜ ĞȞæøÜ şÜ ƙȝʐĞèÜ

ÆDZʐǩş ÛĞĒöÄŁÎöäş ʔÛèʐöä ÄȮΛÄŋÜ Ž *ğǨ8ǪţäĞĒȩÂţä* ÆDZʐǩ ·ǫşÆΣäş ŽäÄ8ƨä ţ äʐǪöä ǨÄòş Æȩş ÜjÄÊφqä ÆΛȝ øåÄφ ğ ÄĒȩÂţä öäå ·Äæşøşİş ÛÄĒèÜş ÛÄĒÕΛÄʐÜ Ž ĞĒÛĒʅä ĞĒȩÂţä Ž [1] ÛɃÆφşÄæş äÆφşäø Ž ÛğÆȞǪţä ğ ÄΛɼʐöä Ž [2] ÛjÄæÄĒöä Ž ğ ɼÄğ [7] ȸŁȒǪǩ ĞöÄğ [20] ğÆğäş ·1989 ӯÄȝ ØÄŋ ȔŌʐ ƙǪΛÄÎæ ƙǪöÄğ ȸȝ ŋĒŸĞǪöä Ź ·ÄΛøʐō ĞΛøʐȚP Ž [1] ÛÆφŸΛΛÄq Schultze *et al.,*) ğÆȞǪţä ğ ÄΛɼʐöä Ž ʔÄṅjäş (Eom *et al.,* 1992) ÄΛøʐō ĞΛøʐȚP Ž şÆĞΛş ÛÄȚȞŋ ÆèÄΛǪΛ ɼ ɃÄÛĒĞöä ÆÛöä ÆǪō ŌĞȩ ȸŋ ÄȚ ā ÄȮţä åşÆɨä ȯÄŌä jÜ ·(1992 *ĞĒȩÂţä* ţ äʐφÜ ğ ÆDZş ·ĞȞəÄì ÆöÄȞǰöä ĞòÄṅ ǐğäʐŸöä Ž Ğ8öÄĞöä *ĞĒȩÂţä* ȸȝ ĞPÄΛöä ʔşÆȞöä jÜ ƙæ Û(Fitzsimmons, 1967) Ƀşɼ Äŋ Ž Ğǰƨä Ǵǫʐ ÆȞæ ÄDZäå ÄĞŸō [120] ŌòÜ ȸŋ %34 Ž Ž ÄþÜ ÄĞŸȞǫ [342] ŌòÜ ȸŋ %73 öÄȞŋÜ Ž ĞĒȩÂţä ţ ʐφ ÆDZş Û[1999] ӯÄȝş [1997] ɄŋÄȝ Ž ·ÄφÄĞèÜ Ž [201] Ž %23ş äÆΛöʐŁ Ž [68] ȸŋ %24 ÛÄφÄţÜ Ž [1.300] ȸŋ %54 ÛjÄφʐĒöä Ž %58 БÜ %0 ȸŋ ʔşÆȞöä ğ ɼÆȞŋ ğ ÆDZş ·ğÆȞǪţä ğ ÄΛɼʐöä ÛÄȮèɼÜ Ž ȝȩäʐŋ ĞĒφÄq ÛǴΛÄÎǪöÄæ Ğǰƨä Ǵǫʐ ÆΛȝ ĞΛÆȞÄŋ ǨφÄō åʐȚʐ [8] ȸŋ %37 ·ÄφÄĞèÜ Ž ·ÄĞÛȩ ÄĞŸȞǫ [254] ĞĒȩÄÔöä ʔşÆȞöä ·ĞφʐüʐţäȨüÄţä Ž ·ÄȚǰDZ ǨȞǪʐ ĞöÄṙ ĞÛȩ [58] ȸŋ %14 ǨφÄō ŌöØōş ŌöØōş (Crosbie *et al.,* 1998) ĞDZäÆöä ğ ÄφäʐĒΣä Ž ĞȞəÄì tetrathyridia øöä ȸȝ ĞPÄΛöä ·ÄṙÄŋ ĞŁĒÊƨä ʔşÆȞöä ÆĞÊǩ Æȩ ·ţ åÄΛȒöäş ɄȝÄʐjä Ž

ÛɄøΛÛæ БÜ ÛĞĒŁȒŁ ğ ÄäÄÛṙä ·ɄŁ jÄÊφqä Ž ĞĒÊəÄöä ô äȝjä ·ȮĒÅÎǪöäş öäÆöä ȼŸṅäÆæ Äğ ÄəÄō Ƀʐȝ ȼφÜ ȒΛÄţä ʔÆö ǐəäå øʐȞì ÛğǨ8ò ğ Ÿèj ÄΛÄq ȟäÄʐÜ ÛöÄȚèÜ

[illegible] (Eom *et al.,* 1992) [illegible] (Crosbie *et al.,* 1998) [illegible] 11 [illegible] tetrathyridium

[illegible] .tetrathyridium [illegible] tetrat- [illegible] hyridium [illegible]

[illegible] tetrathyridium [illegible]

ǕøƜƐþøǅǁƐ


Crosbie, P.R., W.M. Boyce, E.G. Platzer, S.A. Nadler, C. Kerner. Diagnostic procedures and treatment of eleven dogs with peritoneal infections caused by *Mesocestoides* spp. *J Am Vet Med Assoc* 213:1578–1583, 1998.

Eom, K.S., S.H. Kim, H.J. Rim. Second case of human infection with *Mesocestoides lineatus* in Korea. *Kisaengchunghak Chapchi* 30:147–150, 1992.

Fitzsimmons, W.P. A survey of the parasites of native dogs in Southern Malawi with remarks on their medical and veterinary importance. *J Helminthol* 41:15–18, 1967.

Schultz, L.V., R.R. Roberto, G.W. Rutherford III, B. Hummert, I. Lubell. *Mesocestoides* (Cestoda) infection in a California child. *Pediatr Infect Dis J* 11:332–334, 1992.


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## RAILLIETINIASIS ǀƑǆĭŦƑĭþǁƐ ƅƐǫ

### ƕĭŸǋǆǗ ƕĭǕƐþǀ ǌǋǫŸ ICD-10 B71.9

### ICD-10 B71.9 Cestode infection, unspecified

Ǵƺǒƺƫä ĞÆÊÆəÀöä ƫäƺǫǰä ƟĿ *demerariensis* ĞÆÆǨÀÄöäş *celebensis* ĞÆÆǨÀÄöä : ğÅÆĞĞÊöä Ž ĝåƺǅƺƫä ĞÆÆǨÀÄöä ÈÀǅZ ƌƞ ʔÀńǰä ƫäƺǫǰä ǰǕ ÆŐǪʒäş ǕǰÅÊǫɋä ÆÀʒ ôÀŧŸö ŌƞäƺȞõ Ǖgarrisoni ĞÆÆǨÀÄöäş Formosana ĞÆÆǨÀÄöä ǕAsiatica ĞÀƺƐèǿä ĞÆÆǨÀÄöä Ŏǯƞ – ǰÅÊǫɋä ƌÀØĿ ƌƞ Æǵäƺö ĞŸǫÅư ǕsiriragiĞÆÆǨÀÄöäş Ǖmadagascariensis ĞÀŐÎɖÆƫä ĞÆÆǨÀÄöäş ÈÆŐǩ ·ǰäæÀəä ĞòÅń ôøäƺŐöä ƟĿ celebensis ĞÆÆǨÀÀŸö ĞÆȞĞÛöä ĞÆəÅȚÀöä ŏÅƺǫǰä ǰǕ ·ƙÀǫɋä Ƙȡ ǈǅÅƚä ǕĞŸèǕ 500 ƌƞ ÄǯõǕ ÅȚÀÆöş ǕƟŧȚʒǕ ÆƕõÅȑÀʒ 2.5ş ÅƚƺüǈèÁ 40 ĞÆüäÀÎöä Ōõ Ž ǕȐÆĞŸö ĞȚÅȚ 400 – 300 ĞŸƞÅΣä ĞŸèǰä ɃƺƠ ǕÈÀəä äØĿ Ž øåÅǫ äØĿş ĞõƺÎƞ ĝöäƺȞöä ÈÆǫÅÊÀöäş ôøäƺŐöä ƌƞ Ōõ Ž demerariemsis ĞÆÆǨÀÄöä ğÆǅşǃôƺÆä 4 ĞȚÅȚ ÅǫÀÀäƺȡ Ž 1985 ȳÀʒ) Ƃşǰä ĞÀÀÎĞöä ĞöÅΣä Ž ȣƺòƺƫä ƟŸòǰä ʒæƺŧÀöäş Ǖhowlimg ĞÆĞÛöä ğÅÆæåǰä Ž ÅĞöÅȡ Ǵƺǒƺƫä ʒæÅŧÀöä ·ĞŸèǕ 320 ȼÀÆöş ǕǈèÁ 23 ÈÆŐÀ ǰÅõ (Guyana ǈè 12 ʔøǪǵ ÅȚèÅȩ Ōòş Æȩş ǕøşåäƺõǰäŽ 1925 ȳÀʒ ǨÀÎǪõä ƟøǪöä ŌŸǩ ƟĿ ĞȚÅȚ 250 – 75 ɃƺƠş Ǖäøǰä äƺǵ ȼĞÎÀ ŌÒĭ ĞŸƞÅΣä ğŸèǬö ·ĞŸèǕ 500 ÅȚÀÆöş ƘȡƟŸÆÀÛöä äØĿ ȯƺü ·ÅȚÀƞ ǵÆǵäş ŌÒö ĞȐÆä 12 ƂǕ ŌÔǩ ÅǫÅÆǵǕş ôƺÆä 9 – 7 ʒƞ ȐÆä ǕǴƺşÅȞƞ Ƙȡ ǰÅÊǫɋä ÆÆÔÀ ɃØöä ÈÀǅƺŸö ĞÆǅƺǒƺÆĞöä ǵøşÆöä ·ĞÆÆǨÀÄöä ÈÀə ĞĞÊÀöÅä ɃåÅʒ

[illegible] 225 [illegible]

[illegible] *celebensis* [illegible] 11 [illegible] 20 [illegible] %9 (*Rattus norvegicus*) [illegible] %54 [illegible] %7 [illegible] %5 [illegible] (*Rattus rattus*) [illegible] (*Bandicota bengansis*) [illegible] 1997 [illegible] %37 [illegible] *demerariemsis* [illegible] *quitensis* [illegible] *Luisaleoni* [illegible] *Leoni* [illegible] *equatoriensis* [illegible] 1933 [illegible] %12.5 – %4 [illegible] %0.08 [illegible] 8,948 [illegible] %14 [illegible] 1961 [illegible]

[illegible]

[illegible]

[illegible] 400 – 300 *celebemsis* [illegible] 46 [illegible] 99 [illegible] 4 – 1 [illegible] 250 – 75 *demerariemsis* [illegible] 40 – 25 [illegible] 12 – 7 [illegible]

[illegible] *Sigmodom*) [illegible] (*hipidus* [illegible]

[illegible]


Belding, D.L. *Textbook of Parasitology*. 3rd ed. New York: Appleton-Century-Crofts; 1965.

Boggs, J.F., S.T. McMurry, D.M. Leslie, Jr., D.M. Engle, R.L. Lochmiller. Influence of habitat modification on the community of gastrointestinal helminths of cotton rats. *J Wildl Dis* 27:584–593, 1991.

Faust, E.C., P.R. Russell. *Craig and Faust's Clinical Parasitology*. 7th ed. Philadelphia: Lea & Febiger; 1964.

Jueco, N.L. *Raillietina* infection. *In*: Jacobs, L., P. Arámbulo III, eds. Section C, Vol. 1: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press, 1982.

León, L.A. Un foco endémico de raillietiniasis observado a través de treinta años. *Rev Medicina (México)* 44:342–348, 1964.

Namue, C., C. Wongsawad. A survey of helminth infection in rats (*Rattus* spp.) from Chiang Mai Moat. *Southeast Asian J Trop Med Public Health* 28 Suppl(1):179–183, 1997.

Niphadkar, S.M., S.R. Rao. On the occurrence of *Raillietina* (R) *celebensis* (Janicki, 1902) in rats of Bombay with special reference to its zoonotic importance. *Ind Vet J* 46:816–818, 1969.

## SPARGANOSIS ɩƑŽ ƀƐǫ

### ICD-10 B70.1

spirome- ǋǵÅöä ǦƐǦöǫö ŏăá Ûdiphyllobothriasis ɄęƘöä ǧäşÅèǫȞöä ŏăá ˑǧÅǫåäÅţä .plerocercoid ǦŸȶǪÒţä ǦƐŢŸÅØöÅæ ʔşÆȞöä Ûtrosis

ǦƐŢŸÅØöä) ɄøŢÅǯöä ɄęƘöä øǫÛöä ǫȽ øÆÔţä ɄøŢäǫƐΣä ôÅţä äØȽ Ōŋ̈Å3 ˑǧÅƐǦÊöä *Spirometra* ǋǵÅöä ǦƐǦöǫö ÈÅDZ ȸŋ ǦƐŢÅèǫȞöä ǦƐüäÅÎŸö (sparganum ǦÅÅÒţä şÜ ǦŸȶǪÒţä ˑǦƐǦü ǦƐƵÜ ğäæ ţäǫŢÜ ǥÆ3 ƘÅöş Æęş Û(*Lueheela, Diphyllobothrium* ÛŏÅèǫȞöä) ǦƐǦöǫö Û*mansonoides* ŌÒÎöä ǦƐŢǫÊÅţä ǋǵÅöä ǦƐǦöǫö Û*mansoni* ǦƐŢǫÊÅţä ǋǵÅöä ǦƐǦöǫö ɉÜ Åŋ ȸÒö .*proliferum* ǦÅŢÅÒǪöä ǋǵÅöä ǦƐǦöǫöş Û*erinaceieuropaei* ǦÅÆÅöÅqä ǋǵÅöä (Rego and Schaffen, 1992) ÅÆDZ ÆȞò Åŋ̈Ü ɉÅÊŢqä Ž ğÅƐŢÅÊƐÒŸö ɄÅƐÅÔǪöä ÅƐȶǪöä ğÆDZş .ǦÅŸǪÅţä ţäǫŢɉä 3ŋ ŸȞǫ ĀèÅÅǪǩ öÅƧɉä ǾØȽ ƘŢÅõ äæÜ ÅȶƐǫ ȣşÅȞţä Ƙq ȸȶǫ ǋǵÅöä ǦƐǦöǫö ÅŒÜ ʔŸ3 ʔÔęɉä àÅÎöä Ž ǪÆƠ ɄøǪöä ǧÅƐŸÅÛöä ȣäÅȞǪèɍ ÅňúŋǦ3ÅøŢ ŌŸǩş ÛŌÒÎöä ǦƐŢǫÊÅţä ǋǵÅöä ǦƐǦöǫö ÅŒÜ ʔŸ3 ÅÒÅÅŋÜ Ž ÆDZǫǩ ɄøǪöä ŌŸǩş ÛǦƐŢǫÊÅţä ǦÅşǫÅöä ôǫȶΣä ǧÅèäøá ƘÅÒŋ Æęş .ǦÅÆÅöÅÅɉä ǋǵÅöä ǦƐǦöǫö ÅŒÜ ʔŸ3 ÅƐöäÅǪèÜ Ž ɄøǪöä ǋǵÅöä ǦƐǦöǫö .(Lee *et al.*, 1997) ǦƐŢǫÊÅţä ǋǵÅöä ǦƐǦöǫö ȸ3 ǦÅÆÅöÅÅɍä ǋǵÅöä ǦƐǦöǫö ÅƐƐǫ ȸŋ Ûȣ̈şÅȞŋ Ƙq ɄəÅƮÅöä ÅƮÅǫǭ ɄøǪöäş ÛǦ3ÅÅǪŋ ǦƐŢÅÊƐÒö øåÅŢ ŌÒĭ *proliferum* ǦÅŢÅÒǪöä ǋǵÅöä ǦƐǦöǫƗä ÅÆDZǫöşƎè ǦÛǦǨÅŋ ÅŒÜ şÆǦÅş ÛɃǫǯöä ɉÊŢ Ž Ƶ3ÅȒǪǩş ǦƐŢÅDZ ǋ3äÅæ ɉǪÅǩş .1992 ȳÅ3 ÅƮƐŌÅǩ *ǫÅǫøş* Åǫŋ äøá .(Nokamura *et al.*, 1990) ǦÅÆÅöÅÅɉä

øǫÛǪöä ǥøşá ÆŸÛǪǩ .ǦÅƎöäş ǦÅDZäÆöä ğÅƐǦŸÒöäş ğÅÅŢä ɄȽ ǦÅÅÒȶŸö ǦƐəÅƮÅöä öÅǫǭɉä Û*Cyclop* ÜȞŸǦöä ÈÅDZ ȸŋ (ȨöÅ3 ɃÅÎę) copepod ȣåÅDZ ǫȽ òşɉä ˑƙÛèǫǪŋ ƙÅǫǭ ǋǵÅöä ǦƐǦöǫö ôǫƐæ ȸŋ øǫÛǩ ɄøǪöä (Åǥ āÆƮŋ ƙÅDZ) *coracidium* öÅǦǫÅöä 3ŸǪǦÅ ɃØöäş şÜ Ƃşɉä ǦęƘöä ƂÜ ȣåÅƨä ɈƐŢ Ž öÅǦǫÅöä òǫȞǪǩ .ɄəÅƮÅöä Ƀǫǯöä äÅåÅæ 3ŋ öÅţä ŌÒǩ ÅŋÆÅ3 ǦƐŢŸÅØöä ǦȞƐŸü ɉüǫ ÅÅÆȞÅŋ ÅÅÅÎę ɉÅǪ ÜèǫǪŋ ɃǫǪ 3ŸǪǦÅ ÅŋÆÅ3 .procercoid ǦƐŢŸÅØöä ǦȞƐŸü ȒȞǦö ÅÖǫş .(ǦÅÅÒţä şÜ plerocercoid ǦŸȶǪÒţä ǦƐŢŸÅØöä) ɄøŢÅǯöä ǦęƘöä ŌÒĭ ƂÜ øǫÛǪǩ

[illegible] 30 – 10 [illegible]

[illegible] 25 [illegible] 10 – 4 [illegible]

[illegible] Guyana [illegible] Belize [illegible] 500 [illegible] (Griffin *et al.,* 1996) [illegible] 62 [illegible] 1996 [illegible] 30 [illegible]

[illegible]

%20 … %95 …

916 …

%15 … %0.7 … 8 …

%3 …

%25 … %90 – %50 …

1972 – 1971 … (*Hyla coeruela*)

… %100

… 37 … %49 …

(*Philodryas patagoniense*) … 6 … (*Leptodactylus ocellatus*) …

… 10 …

(Bi *et al.*, 1983) … 14 … 20 …

… 22 …

[illegible] .(Bi *et al.*, 1983) [illegible] .(Tsou and Huang, 1993) [illegible] $^{3-1}$ [illegible]

[illegible] (Nakamura *et al.*, 1990) [illegible] 9 [illegible] 7 [illegible] Chang *et al.*,1992) [illegible] .(Kim *et al.*, 1996

[illegible]

[illegible] .(Phares, 1996)

[illegible]

[illegible] phlogestic [illegible]

[illegible]

[illegible]

[illegible] (Chang and Han, 1998) [illegible] (1994) [illegible] invagination [illegible]

[illegible]

[illegible]

Bi, W.T., *et al.* [A report of 22 cases of *Sparganosis mansoni* in Hunan Province]. *Chin J Pediatr* 21:355, 1983.

Chang, K.H., M.H. Han. MRI of CNS parasitic diseases. *J Magn Reson Imaging* 8:297–307, 1998.

Chang, K.H., J.G. Chi, S.Y. Cho, M.H. Han, D.H. Han, M.C. Han. Cerebral sparganosis: Analysis of 34 cases with emphasis on CT features. *Neuroradiology* 34:1–8, 1992.

Griffin, M.P., K.J. Tompkins, M.T. Ryan. Cutaneous sparganosis. *Am J Dermatopathol*

18:70–72, 1996.

Kim, D.G., S.H. Paek, K.H. Chang, *et al*. Cerebral sparganosis: Clinical manifestations, treatment, and outcome. *J Neurosurg* 85:1066–1071, 1996.

Lee, S.U., S. Huh, C.K. Phares. Genetic comparison between *Spirometra erinacei* and *S. mansonoides* using PCR-RFLP analysis. *Korean J Parasitol* 35:277–282, 1997.

Mueller, J.F., O.M. Froes, T. Fernández. On the occurrence of *Spirometra mansonoides* in South America. *J Parasitol* 61:774–775, 1975.

Nakamura, T., M. Hara, M. Matsuoka, M. Kawabata, M. Tsuji. Human proliferative sparganosis. A new Japanese case. *Am J Clin Pathol* 94:224–228, 1990.

Nishiyama, T., T. Ide, S. R. Himes, Jr., S. Ishizaka, T. Araki. Immunodiagnosis of human sparganosis *mansoni* by micro-chemiluminescence enzyme-linked immunosorbent assay. *Trans R Soc Trop Med Hyg* 88:663–665, 1994.

Noya, O., B. Alarcón de Noya, H. Arrechedera, J. Torres, C. Arguello. *Sparganum proliferum*: An overview of its structure and ultrastructure. *Int J Parasitol* 22:631–640, 1992.

Phares, K. An unusual host-parasite relationship: The growth hormone-like factor from plerocercoids of spirometrid tapeworms. *Int J Parasitol* 26:575–588, 1996.

Rego, A.A., G.V. Schaffer. Esparganose em alguns vertebrados do Brasil. Dificuldades na identificação das espécies de *Luheella (Spirometra)*. *Mem Inst Oswaldo Cruz* 87(Suppl 1):213–216, 1992.

Tsou, M.H., T.W. Huang. Pathology of subcutaneous sparganosis: Report of two cases. *J Formos Med Assoc* 92:649–653, 1993.

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## TAENASIS ĺ ƑĨǗĭþ Ţ ǁ ƀƐƣ

ƔƣĭΘŊǁ ƕĭǗĭþ Ţ ǁ ƊžY !ƜƑǁ *ĺ ƑĨǗĭþ Ţ ǁ* ƀƐƣ **ICD-10 B68.0**

ƀǗƦyǁ ƕĭǗĭþ Ţ ǁ ƊžY !ƜƑǁ *ĺ ƑĨǗĭþ Ţ ǁ* ƀƐƣ **B68.1**

**ICD-10 B68.0 *Taenia salium* taeniasis; B68.1 *Taenia* saginata taeniasis**

Û*T. saginata* *ŏrÂHöä ǦÆÛÅÀÎöä*ş Û*T. solium* *ǥÆǧζöä ǦÆÛÅÀÎöä* ğÅÆüäÀï ˙ğÅÆǤÊöä ğÅÆŸÆÀÛõ ȷÅǬζşÅȞŋ *ŏrÂHöä ǦÆÛÅÀÎöä*ş *ǥÆǧζöä ǦÆÛÅÀÎöä* ·*T. asiattica* ǦÅζÆèȼä ǦÆÛÅÀÎöäş ƘǤõ Æǵ БǗ ȼäÅÎŋ ţζȹ ǦÅζÆèȼä ǦÆÛÅÀÎöä ·(Shulman, 1982) ӯÅʒ 300 ȸŋ ÀǰõĴ ǦÅÀÎä ȷǗ ȴȹǿ Û(Eom and Rim, 1993) 1993 ӯÅʒ Ž ÆÅÆDZ ţζÅõ ǨÅȍş Û*ŏrÂHöä ǦÆÛÅÀÎöä* Äʒζȹ ÅŒζõ ȸŋ ÀǰõǗ *ŏrÂHöä ǦÆÛÅÀÎöä* ȸŋ ÄǨÅζȹ ǦÅζÆèȼä ǦÆÛÅÀÎöä ȷşƎȹǨÅ āÅȹȮöä ȴŢǨŋ ÅŁÂÆŧȹö ǗŐζ Ƀʒζöä ȴèrä ʒÛÖţä äØŁ ӯÆÅȹÊÅ ·*ǦÅζÆèȼä ŏrÂHöä ǦÆÛÅÀÎöä* ÅŒζʒÆÅş ÛÅÆÅÆDZ ·ŏrÂHöä *ŏrÂHöä ǦÆÛÅÀÎöä* ȸʒ

ȼəÅǨŋǗ Ž ŋöÅǤöä øζÛöä ȸȮÊÅ ǬÆǵ ÛȷÅÊȹqä ζŁ ğÅÆÛÅÀÎöä ȻØT ɄəÅŦÅöä Ƀζǯöä ȷǗ

Cysticercus ... Bovidae ... bovines ... Cervidae ... .(Fan *et al.*, 1990a; Fan *et al.*, 1990b)

1000 – 800 ... 4 – 2 ... 6 ... 5 ... 50.000 – 30.000 ... 72 – 24 ... *cellulosae* ... 10 ... 5 ... 15 – 8 ... 10 – 9 ... 72 – 62 ... 25 ...

[illegible] .*Cysticerus racemasus* [illegible]

[illegible] 10 – 4 [illegible] 2000 – 1000 [illegible] 100 [illegible]

[illegible] 75 – 60 [illegible] 12 – 10 [illegible]

[illegible] 10 [illegible] .(Fan *et al.,* 1990a; Fan *et al.,* 1990b) [illegible]

39 1947

2.5

Strickland,) 3 45 1973

(1991

634 1997 736

11 63 6

1994 1985

Sutisna *et*)

56 %98 (*al.*,1999

(Allan *et al.*, 1996)

216.275

(Kappus *et al.*, 1991) %0.1 1987

%1

900 (1991)

%12.4 %1.5

300 %10.4 (Giboda *et al.*, 1991) 1.008

Birrie *et al.*,) 19 %8.1 (Karrar and Rahim, 1995)

.(Supanaranond *et al.*, 1990) [illegible] 171 [illegible] %2.9 [illegible] (1994 [illegible] %10) [illegible] %65 [illegible]

[illegible] %1.7 [illegible] %0.1 [illegible] %1.6 [illegible] %2 – 1 [illegible] %0.6 [illegible]

[illegible] .(Fan, 1997) [illegible] %6 [illegible] %11 [illegible] %21 [illegible] .(Depary and Kossman, 1991) [illegible]

[illegible]

[illegible]

Demirize et)

(al., 1995

.(Pawlowski, 1983)

1.661 (1992)

%78

%77 (%95)

.%26 %42 %42 %45 %46

Fan) 30 – 26 %60 .(*et al.*, 1998

[illegible] [14] [illegible]

[illegible]

[illegible] (Gupta *et al.*, 1997)

[illegible] 12 – 7 [illegible] 30 – 16 [illegible] 16 – 12 [illegible] (Montenegro *et al.*, 1996) [illegible] (Gottstein *et al.*, 1991) [illegible] Allan) [illegible] 2.5 [illegible] (*et al.*, 1996 [illegible] 475 [illegible] 10 [illegible] Rodríguez-Canul *et al.*,) [illegible] 7 [illegible] .(1999

[illegible]

(1997) 13.641.021 11.327.423 2.425.500

(1997)

1

1964

.%0.38 – %1.09 1972

2

%8

.(Barbier *et al.*, 1990)

3

4

[illegible] (Lightowlers, 1996) .(Evans *et al.*, 1997) [illegible]

5. [illegible]

6. [illegible]

## [illegible]


Allan, J.C., M. Velásquez-Tohom, R. Torres-Álvarez, P. Yurrita, J. García-Noval. Field trial of the coproantigen-based diagnosis of *Taenia solium* taeniasis by enzyme-linked immunosorbent assay. *Am J Trop Med Hyg* 54(4):352–356, 1996.

Barbier, D., D. Perrine, C. Duhamel, R. Doublet, P. Georges. Parasitic hazard with sewage sludge applied to land. *Appl Environ Microbiol* 56(5):1420–1422, 1990.

Barriga, O.O. *Veterinary Parasitology for Practitioners*. 2nd ed. Edina: Burgess International Group; 1997.

Birrie, H., B. Erko, S. Tedla. Intestinal helminthic infections in the southern Rift Valley of Ethiopia with special reference to schistosomiasis. *East Afr Med J* 71(7):447–452, 1994.

Demiriz, M., O. Gunhan, B. Celasun, E. Aydin, R. Finci. Colonic perforation caused by taeniasis. *Trop Geogr Med* 47(4):180–182, 1995.

Depary, A.A., M.L. Kosman. Taeniasis in Indonesia with special reference to Samosir Island, north Sumatra. *Southeast Asian J Trop Med Public Health* 22 Suppl:239–241, 1991.

Eom, K.S., H.J. Rim. Experimental human infection with Asian *Taenia saginata* metacestodes obtained from naturally infected Korean domestic pigs. *Kisaengchunghak Chapchi* 30(1):21–24, 1992.

Eom, K.S., H.J. Rim. Morphologic descriptions of *Taenia asiatica* sp. n. *Korean J Parasitol* 31(1):1–6, 1993.

Evans, C.A., A.E. González, R.H. Gilman, *et al.* Immunotherapy for porcine cysticercosis: Implications for prevention of human disease. Cysticercosis Working Group in Peru. *Am J Trop Med Hyg* 56(1):33–37, 1997.

Fall, E.H., S. Geerts, V. Kumar, T. Vervoort, R. De Deken, K.S. Eom. Failure of experimental infection of baboons (*Papio hamadryas*) with the eggs of Asian *Taenia*. *J Helminthol* 69(4):367–368, 1995.

Fan, P.C. Annual economic loss caused by *Taenia saginata asiatica* taeniasis in three endemic areas of East Asia. *Southeast Asian J Trop Med Public Health* 28 Suppl 1:217–221, 1997.

Fan, P.C., W.C. Chung, C.Y. Lin, C.C. Wu. Experimental infection of Thailand *Taenia* (Chiengmai strain) in domestic animals. *Int J Parasitol* 20(1):121–123, 1990a.

Fan, P.C., W.C. Chung, C.T. Lo, C.Y. Lin. The pig as an experimental host of Taenia saginata (Ethiopia and Madagascar strains). *Ann Trop Med Parasitol* 84(1):93–95, 1990b.

Fan, P.C., W.C. Chung, C.Y. Lin, C.H. Chan. Clinical manifestations of taeniasis in Taiwan aborigines. *J Helminthol* 66(2):118–123, 1992.

Fan, P.C., C.Y. Lin, C.C. Chen, W.C. Chung. Morphological description of *Taenia saginata* asiatica (Cyclophyllidea: Taeniidae) from man in Asia. *J Helminthol* 69(4):299–303, 1995.

Fan, P.C., Y.X. Ma, C.H. Kuo, W.C. Chung. Survival of *Taenia solium* cysticerci in carcasses of pigs kept at 4°C. *J Parasitol* 84(1):174–175, 1998.

Gemmell, M., Z. Matyas, Z. Pawlowski, *et al.*, eds. *Guidelines for Surveillance, Prevention and Control of Taeniasis/Cysticercosis.* Geneva: World Health Organization; 1983. (VPH/83.49).

Giboda, M., O. Ditrich, T. Scholz, T. Viengsay, S. Bouaphanh. Current status of food-borne parasitic zoonoses in Laos. *Southeast Asian J Trop Med Public Health* 22 Suppl:56–61, 1991.

Gottstein, B., P. Deplazes, I. Tanner, J.S. Skaggs. Diagnostic identification of *Taenia saginata* with the polymerase chain reaction. *Trans R Soc Trop Med Hyg* 85(2):248–249, 1991.

Gupta, R.L., V. Agrawal, S. Kumar, Monika. Oral expulsion of *Taenia saginata*. *Indian J Gastroenterol* 16(2):70–71, 1997.

Hinz, E. Current status of food-borne parasitic zoonoses in West Germany. *Southeast Asian J Trop Med Public Health* 22 Suppl:78–84, 1991.

Kappus, K.K., D.D. Juranek, J.M. Roberts. Results of testing for intestinal parasites by state diagnostic laboratories, United States, 1987. *Morb Mortal Wkly Rep CDC Surveill Summ* 40(4):25–45, 1991.

Karrar, Z.A., F.A. Rahim. Prevalence and risk factors of parasitic infections among under-five Sudanese children: A community based study. *East Afr Med J* 72(2):103–109, 1995.

Lightowlers, M.W. Vaccination against cestode parasites. *Int J Parasitol* 26(8-9):819–824, 1996.

Montenegro, T.C., E.A. Miranda, R. Gilman. Production of monoclonal antibodies for the identification of the eggs of *Taenia solium*. *Ann Trop Med Parasitol* 90(2):145–155, 1996.

Pawlowski, Z.S. Clinical expression of *Taenia saginata* infection in man. *In*: Prokopic, J.E., ed. *The First International Symposium of Human Taeniasis and Cattle Cysticercosis; 20-24 September 1982, Ceske Budejovice. Proceedings.* Prague: Academia; 1983.

Rodriguez-Canul, R., A. Fraser, J.C. Allan, *et al.* Epidemiological study of Taenia solium taeniasis/cysticercosis in a rural village in Yucatan state, Mexico. *Ann Trop Med Parasitol* 93(1):57–67, 1999.

Shulman, Y.S. Biology and taxonomy of *Taenia saginata* and *Taenia solium*. *In*: Lysenko, A., ed. Vol. 2: *Zoonoses Control*. Moscow: Centre of International Projects OKNT; 1982.

Strickland, G.T., ed. *Hunter's Tropical Medicine*, 7th ed. Philadelphia: Saunders; 1991.

Supanaranond, W., S. Migasena, P. Pitisuttitham, P. Suntharasamai. Health status of Thai volunteers in a cholera vaccine trial. *J Med Assoc Thai* 73(10):548–551, 1990.

Sutisna, I.P., A. Fraser, I.N. Kapti, *et al.* Community prevalence study of taeniasis and cysticercosis in Bali, Indonesia. *Trop Med Int Health* 4(4):288–294, 1999.

## [illegible] 3
## Acanthocephaliases and Nematodiases

## ACANTHOCEPHALIASIS [illegible]

### [illegible] ICD-10 B83.8
### ICD-10 B83.8 Other specified helminthiases

.Macracanthorhynchosis [illegible]

thoren- [illegible] *M. hirudinaceus* [illegible] headed [illegible] *G. gigas* [illegible] *Gigantorhynchus hirudinaceus* [illegible] *Moniliformis moniliformis* [illegible] (*Echinorhynchus gigas* [illegible] *A. bufonis* [illegible] *Acanthocephalus rauschi* [illegible] *Corynosoma strumosum* [illegible] (*A. sinensis* [illegible]) [illegible] .*Bolbosoma* [illegible] 5 – 3 [illegible] 10 [illegible] 10 – 4 [illegible] 35 [illegible] proboscis [illegible] 110 – 70 [illegible]

[illegible] (Scrabaeidae [illegible] (dung) [illegible] (peccary [illegible] (muskrat [illegible] (squirrel [illegible] 3 – 2 [illegible] 250.000 [illegible]

[illegible] *Corynosoma* [illegible] *Enhydra*) [illegible] (*Alopex lagopus*) [illegible] *strumosum* [illegible] pinnipeds [illegible] (*lutris* [illegible] (*pontoporeia affinis*) [illegible] *Bolbosoma* [illegible]

[illegible] %32 – %17 [illegible] .%23 (Soulsby, 1982) [illegible] %5 – %0.9 [illegible] %60 – 50 [illegible] %7.4 – %3 [illegible] .(Leng *et al*., 1983) [illegible] volga [illegible] Leng *et*) [illegible] *Melolontha* Faust *et al*.,) 1958 [illegible] 5 [illegible] (*al*., 1983 [illegible] (1989) [illegible] .(1974

[illegible] 3 [illegible] 1970
200 [illegible] 115 [illegible]
.(Leng *et al.*, 1983) [illegible]

[illegible] autochtonous [illegible]
.(Neafie and Marty, 1993) [illegible] 15 [illegible] 1989 [illegible]
[illegible] (Ikeh *et al.*, 1992) [illegible]
Mafiana *et al.*,) (*Rattus rattus* [illegible]) [illegible] %39 [illegible]
.(1997

[illegible] *A. bufonis* [illegible]
[illegible] *Corynosoma strumosum* [illegible]
[illegible] (Schmidt, 1971) [illegible]
[illegible] (1990) [illegible]

[illegible]
.(Leng *et al.*, 1983) [illegible]
[illegible] (1992) [illegible]

[illegible]

ğÆì ʔŸȝ ĞÀÀÀÊöä ğäÀĿÀŢǫöä ÆŧǫĤǩ ·caseous ĞĂĞDzǫŋ ĬфÀĿğľş ÛgƘ8ŏ ğäÆĿÖȝ ŌȮÎķş ŌȮÎä ĞÀǫфÀǫ ĞĿŋǫǫÀDZ ʔşÆȝ áǫDZşş ÛʔĤţä øäÆDZ Ōǹäá ɄŸÆÀÛöä ȧäÀǫǹä ĞDZøáş ÛʔşÆĤöä ·ğǫţäş ȧÀÀÔöä āÀŢǫöä БǕ ɃáǘŔş ŏÀĤŋɉä āÀŎǯфä ȸȝ ĞŋÀǹş ÀǯõɉäğɍÀΣä ȴDzÀǩ · ĩ Àǹ ÛŌÀţä Ž ÿá ÀŎǫş ʔŋÆŋ ȯÀŢèǕ БǕ *ğÆǩǫţä* ğáľ ·ğáÀȝ ğÀĿÀş Ƙȡ ĞÀÀÀÊöä ôäÀȝɉä ·Ğȑ øÀȝ ŏÀÀǫǕ ɄĿ Ʉøǫöäş

ÀÀäÀÀʅä ɉǕ ȴȡø ·ÙèǫǫŋɃǫǭ БǕ ɄŸÆÀÛöä øǫÛǩ ǯÀǫȝ :ȯÀŌǫфɍä äÀüş ʔşÆĤöä øÆÔŋ ţäǫфǕ ĞĿȝǫф ɉǕ ɍǕ *ĞÆŎŸĤöä ȴÛÁţä ĞȮəÀÎŏ* ĞĿÊĿəø ŏÀÀǫфľş ğÀȝáǫǫÊŋ ɄĿ ĞÀƎöä ÀÀäÀÀʅäş ÀŢÀĿä ȸŋ Ûğ ÀÀøÀŌÀöä ȸŋ ĬÀŸǫƯ Ĭȝǫф [12] ȸŋ ÀǯõǕ ɃÆĤǩ ɉǕ ȸȮǫş ÛĞŸŋÀõ Ƙȡ ɄŸÆÀÛöä Ʉøǫöäş ÛĞĿŏÀĤƨä ĞĤÀDZɉä ğäÆŧ8ŋ ţŸǫäÀä ÀÀäÀÀʅä ʔÆĤĿ ·(De Gisuti, 1971) ɉÀÊфqä ĬáäÀǫǕ ɉǕ ÆDZş Ûscarabaeids ğÀĿŏÀĤƨä ȻØŢ ĞǫÀȑqÀäş :ƙÔöä Ž ·ĞÛèǫǫŋ ŏÀÀǫфľõ ŌŧĤǩ âĺÀöä ğÀõǫÎţ Ƙǹɉä ɉȒÀöä ĞŸğÀŋ Ž ğÀęƘä ƙÀÆĤÀŋ äǫфÀõ Carambycidae ĞŸĿÔǫ ȸŋ ĞŌÀÀÛä ʔşÆĤöÀä ɉÀÊфqä āÀÔÀ ·(Leng *et al*., 1983) (cystacanth ĞĿÊĿȮöä ĞȮəÀÎöä) ȴŢĤŋ ǫÆƠ ·ĞĤÀDZɉä ğäÆŧ8ţ deliberate ÆŧĤǫŋ şǕ ôøÀȝ ţŸǫäÀä ÀÀäÀÁŸö ĞŏÀÎŋ ĬфÀĿğľş ÛÀŏ ɉǫĞĤŸÀ şǕ ȄǫÀÀʅä ɉǫÛŌǫŸÀ ȸÀØöä ÛĞĿÀÀÀöä ȨüÀţä Ž ȯÀÀüɉä Ž ʔşäÆĤöä āǫÀDZ Ž · ğÀęƘöä ŌǫŌö 8Àõ Ƙȡ ŌȮÎä Ğǹǫ ĞÛŋ ȸȮǫş ÛƵĿÀǹ ŌȮÎä ĞÔŧŢ ÀŒǫŸõüÀ ÀŒǫŋÆŌÀş ɄŸĿŸöä ȯäǫĞöä Æȑ ĞŏÀĤǫ ĞĤÀDZɉä ğäÆŧ8ŋ ɉǕ ɉǫğŸÀöä ȒĤä ÆŌǫĤÀ :ƙÔöä · ôÀ8öä äØŢ ȴŢÀÀüɉ

øǫü ɃǫƠ ƙÁǫ 8Ÿȡ ğäæ ôǫĿä áǫDZş ğÀĞǫüä ÒĿÁÎǫöä ȴǫÀ ɉǕ ȸȮǫ :ÒĿÁÎǫöä ÒĤÀĿ ɉǕ ȸȮǫ ÛÀĿØĿĞÀǩ ÆĤä ôǫĿĞöä ĞÀǗø ŌŢÊöä ȸŋş Û(acanthor ĞȮəÀÎöä) Бşɉä ĞęƘöä ȴǫÀ ·¢ğäÀÛфäş piperazine citrate ğäÀǫè ȸÀäÀƘĞĿĞŏÀä ȒÀÀţä ĞƨÀĤŋ ÆĤä ŋŏÀĞöä ɄŸÆÀÛöä ·ğƘǯõ ğɍÀğ Ž ĞĿǫÀĤèä Ğğ äÀDZ ÆĤä ÒĿÁÎǫöä

ŏäÆöä ĞĤǫÀȮţ ·ĞĤÀDZɉä ğäÆŧ8ŋ ţŸǫäÀ ÆĿÀDZǫä ĞÀÀÎĞöä ʔşÆĤöä ȝÀǫ ɉǕ ȸȮǫ :ĞĤǫÀȮţä ȸŋ ÀŢĤÀţ 8Àõ ÿÀĤÛä áşÀǩş ĞĿĤȯ 8şÀŢä ğÀфäǫĿΣä ȘÀƠ ɉǕ Æƶ :ÀÀäÀÀʅä Ž ɄŸÆÀÛöä ·ĞĤÀDZɉä ğäÆŧ8ŋ ţŸǫäş (rooting) ĞæÀǫöä ÆĿŸŎǩ

## ÜøШЄþøĎǁЄ


De Giusti, D.L. Acantocephala. *In*: Davis, J.W., R.C. Anderson. *Parasitic Diseases of Wild Mammals*. Ames: Iowa State University Press; 1971.

Faust, E.C, P.F. Russell, R.C. Jung. *Craig and Faust's Clinical Parasitology*, 8th ed. Philadelphia: Lea & Febiger; 1970.

Ikeh, E.I., J.C. Anosike, E. Okon. Acanthocephalan infection in man in northern Nigeria. *J Helminthol* 66(3):241–242, 1992.

Leng, Y.J., W.D. Huang, P.N. Liang. Human infection with *Macracanthorhynchus hirudinaceus* Travassos, 1916 in Guangdong Province, with notes on its prevalence in China. *Ann Trop Med Parasitol* 77(1):107–109, 1983.

Mafiana, C.F., M.B. Osho, S. Sam-Wobo. Gastrointestinal helminth parasites of the black rat (*Rattus rattus*) in Abeokuta, southwest Nigeria. *J Helminthol* 71(3):217–220, 1997.

Neafie, R.C., A.M. Marty. Unusual infections in humans. *Clin Microbiol Rev* 6(1):34–56, 1993.

Prociv, P., J. Walker, L.J. Crompton, S.G. Tristram. First record of human acanthocephalan infections in Australia. *Med J Aust* 152(4):215–216, 1990.

Radomyos, P., A. Chobchuanchom, A. Tungtrongchitr. Intestinal perforation due to *Macracanthorhynchus hirudinaceus* infection in Thailand. *Trop Med Parasitol* 40(4):476–477, 1989.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea & Febiger; 1982.

Schmidt, G.D. Acanthocephalan infections of man, with two new records. *J Parasitol* 57(3):582–584, 1971.


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## ANGIOSTRONGYLIASIS ƕĭəƑƳǋǁЄ ƖƑĭďЄǋƯƨŬЄ ƀЄƣ

### ƖƑĭďЄǋƯƨŬЄ ƀЄƣ B83.2 ÛăǋyĎǁЄ ƕĭəƑƳǋǁЄ ƖƑĭďЄǋƯƨŬЄ ƀЄƣ ICD-10 B81.3

### (*ƕĭďǋĦƑǁЄ ƕĭǋƑďƯƨŬЄ*) ƕĭəƑƳǋǁЄ

**ICD-10 B81.3 Intestinal angiostrongyliasis**

**B83.2 angiostrongyliasis (*Parastrongylus Cantonensis*)**

ÛɄøǺäʐĿöä ǺǺĦɈÊöä āÅȚǬöä ÛAngiostrongylosis ǴĿəÅʒʐöä ğÅĿɸäʐÛèɉä öäá ːğÅʐáäÅţä ğÅĿɸäʐÛèɉä öäá Û(*ǴĿɸʐɸÅÓöä ǴĿəÅʒʐöä ǴĿɸäʐÛèɉä*) ɄøǺäʐĿöä ǺǺĦɈÊöäş ȟÅɳÆöä āÅȚǬöä ·(*ǴĿÓǺøÅɸèʐÓöä ǴĿəÅʒʐöä ǴĿɸäʐÛèɉä*) ɄøÅÛǴöä ǴĿəÅʒʐöä

ːmetastrongylid nematodes ǴÅÛÊɸţä ğäáʐÊŧţä ɄŁ ôÅţä äØŁ Ōɳäʐʒ ːğÅĿǴǴÊöä

Morerast- ) Angiostrongylus costaricensis

cantonensis () (rongylus

.Parastrongylus .malaysiensis

1944

1952 1971

1990

35 – 14 Filiform

0.3

12 .(Sigmodon hidpidus)

Saguinus) (Nasua arica) ()

(mystax

(Vaginulus plebeius ) Veronicellidae Slug

Phyllocaulis

Belocaulus angustipes, Bradybaena Similaris, variegatus

.(Rambo et al., 1997) Phyllocaulis Soleiformis

ȓǺƯ ʒɳ ÛƟəǺȚǺǟ ɃǫǯŸǿ ĞǺǼȞɳ ƟĿ ƟøǪǟʂ ÛǬǟǺǯǟ ǿǫÛǟ ĞęȀǺ dzȀÛǩ ·ǺĞǺȀǾǩ Ǻɳǫǻ [18] ȯŸǹ ·(Mojon, 1994) Ǻŏ ĞÛƐɫǟ ğǺǨǺĞǺǟʂ ĞǟȀǪǟ ǫǫŸǩʂ Û(ĞDZȂŸǟ ǧǻǺƫǟ) slime ȓǺȂƫǟ ʂǕ ĞęƘǟ ĞęƘǟ ȀDZǺő ÛMollusk ɃǫǹȀǟ ǬǹǟǺ ʂǕ ǧȀǧ ƟĿʂ ĞǺǼȞƫǟ ĞęƘǟ ƟəǺȚǺǟ Ƀǫǯǟ ʒŸǪĞǺ ǺɳǼǺʒʂ Ž ĞęƘǟ ʒȒơ ·ĞƐȂȽŸǟ ĞƐʒʂǰǟ ʂȂ8ǩʂ ɃǼȞƫǟ ǿǟǼɛǟ ȧȀǪơʂ Ğǿǫʒǰǟ ĞƐȂəȀŸǟ ĞƐǧǺǟ ɃǕ ĞƐǧǺǟ Ž ĞƐǬǺǿǺÊƫǟ ƙǺǟȂÎǟ ·ƟəǺȚǺǟ ǺȚŸəǫɳ ɃǕ ǺőȀDZĿ ǬĞę ƿŸÊǿǟ ƟøǪŸȽȞǿ ʒȓǫƫǟ ǟǾĿ ǰȒǺǟ ɃǕ ǬǑǾƐǿ Û" ȏǿǺʒ Ƀǫǭ" ǰǺÊǿqǟ Ž ȼǨǺƐǧ ǧøʂǻ ǬȽǑǺ ǰǕ ƟŸƐǺÛŸǿ ȸǑɕ ·Ğǿǫʒǰǟ ǺƐĞƐǧ Ǻɳøʂ Ÿʒ ǺǺǩ ĞĞĞÊɳ ǧǻǺʒ ȏǫƐĞǟ degenerate ȄǑǺǪǩ ȸǑǿ Û ȏǫƐĞǟ ǯǺǪǿǕʂ ƟÊǺɛǟ ·ɃǫǯŸǿ ɃǫȞƫǟ ǿǟǼɛǟ Ž

ȴɳ [0.3] ǺĿȀÛęʂ ȴɳ [25 – 17] ǺȚǫǜ ĞǬƐęǿ ǧƘ8ǿ ǧǻǫÊƲ *ĞƐǿǫǪǿǺǑǟ ĞƐəǺʒǫǟ ĞƐǿǟǫÛèǰǟ* ǿǺǺǫǪǰǟ ·*Bandicota* ***ğǫǬǼƐǟʂ ǟǺɛǟ*** ǟǺȀDZǕ ȸɳ ȏǿǟǫǬŸǿ ĞǺǫəȀǟ ƙǺǟȂÎǟ Ž Ȉ ǺƐȞǩ ǬǯɳĞƐəǺɳƎǟʂ ĞƐəǺƫǟʂ ĞƐȓǿǰǟ gastropods ǬDZǿǰǟ ğǺƐǺÛǟ ȸɳ ĞǺŸǪƯ ƫǟǫǿǕ ƟĿ ĞÛèǫǪƫǟ ĞÊȒ ǿǟǼʒǕ Ź ·*Bradybaena* *ĞŸȚȽǿƫǟ ÛĞǬǿȞƫǟ* *Vaginulus* *Û̌Laevicaulus* *Û̌Achatina* *ĞƐǿǟǫÛèǰǟ* ǧøʂǼǿ ĞǿǺÎɳ ǿǫÛǪǟ ǧøʂǻ ·ǺƐĞǺȀƟ *Oncomelania* *ĞǪǫǬǟ* ʒęǟǫę ȸɳ ƫǟǫǿǕ ğǺǺǫǹǿ ʒɳ ǺɳǕ ÛǬǟǺǯǟ ǿǫÛǟ ğǺęȀǺ ƫŸǪǺǟ ƟəǺȚǺǟ Ƀǫǯǟ ɃǼȞǺǺ Ǽę ·*ĞƐǿǫǪǿǺǑǟ ĞƐəǺʒǫǟ* Ǽę Ǭǿǟ ɃǕ ĞǫǺȓǕ ·ɃǫǹȀǟ ğȀDZĿ ƟøǪǟ ğǺęƘǟ Ƀǫǫʒ ǿǺɳ ʂǕ ğǺǨǺĞǿ ʒɳ ʂǕ ĞǺǼȞǺɳ Ǭǯɳ (Paratenic hosts ɃǺȀȀǪ Ƀǫǭ) (transfer) ǬęǺǿ Ƀǫǭ ǿŸȚǪèɼ ĞDZƐǪǺǿ ʔʂǼȞǿǟ ǫǼƠ ʂǕ ĞǺǼȞǺɳ ğǺǺǫǹø ƘŸǿǕ ǺĿǿʂǼǟ ƟøǪǟʂ ÛƵǧǟʂȂǿǟʂ ğǺƐəǺɳƎǟʂ ğǺȀȂÎǿǟʂ ǬȽÊǟ ǿǺȞɳǰǟ ğǺęƘǟ ȧȀǪơ ÛĞǺǼȞɳ ğǺęȀǺ ʂǕ ǺǺǼȞǺɳ ǺǺǫǹø ƟəǺŒ Ƀǫǹø Ƀǫǭ ʒŸǪĞǺ ·ǧȀǧ ğǺęȀǺ ǺȚǫǜ ĞȞǫȀǺ ğǺƐŸƐǺǜ ǴĞǑǪǿ ƙƐǫǺȓǕ ƙǿǼĞǪǿ ʒȒơ ǬƐǧ ȟǺɳǼǟ ɃǕ ÿǼǟ ʔȀDZɳ ǬȽƠʂ ƘƠ ǺƐƩǟ Ž Ƙęǫǟ ȐȞǟ ʔǬĞǩ ǬƐǧ ǫȒȞǟ ǴÛè ɃǕ ȀDZǺő ƟȂƫǟ ƒƫǟ ȸɳʂ ·ȴɳ [2] ǿȀÊǿǺǟ ÛǼĞǩʂ ƟÊǺɛǟ ǰȒǺǟ ɃǕ ǬǑǩ ǬƐǧ ĞǺǫəȀǟ ƙǺǟȂÎǟ ɃǕ ȀDZǺő Ż ÛƟøǩǫĞǑǺȞǟ Ûǿʂǰǟ ǿǫÛǟ ĞęȀǺ ǧøȀȚ ǺȚʒʂȂǫ ʂǕ ĞǺǫəȀǟ ğǺǺȀÎǟ Ž ȏǫƐĞǟ ȄǬǺǩ ·(ȏǫƐĞǟ ʒȓǫǟ) ʒŸǪĞǩ ǬƐǧ ÛŸǿǫȞŸĞǟ ɃǕ ĞƐǟǫȚǟ ǬǿǺÊƫǟ ȯŸǹ ȸɳ ȀDZǺőʂ ĞǺǫəȀǟ ƿǺèǰǟ ȧȀǪơ ƟøǪǟ ğǺęƘǟ ğǫǪ Ǻɳ ǺĞǺȡ ·ǰǺÊǿqǟ Ž ·ʔʂǼȞǿǟ ǿǼǟ ȸɳ ʒǟǺèǕ Ğǫè ǼȞǟ ǟǟƎǟ ʒɳ dzȀÛǩʂ ǰǰ ĞƐǺÊƐÊǟ ĞŸǑĞǟ ʂǕ ǺǺȞȕÊǟ ʂǕ ȟǺɳǼǟ Ž *ĞƐǿǫǪǿǺǑǟ ĞƐəǺʒǫǟ ĞƐǿǟǫÛèǪǿ* Ğ8ǿǺĞǟ ǰǟǼǺǼǟʂ

18 – 17

(paratenic

1990 *Rattus norvegicus*

Sawabe and Makiya)

%23 (1995

.(Ambu *et al.*, 1997)

*Biomphalaria*

*glabrata*

130 1952

300 (1991) 1971

1992

(1993) .(Juminer *et al.*, 1993)

1995 – 1994

(Kramer *et al.*, 1998) 22

(1997)

%30

%66

[illegible] %6 [illegible] %15 [illegible] .(Juminer *et al.*, 1993) [illegible]

[illegible] *Sigmodon hispidus* [illegible] *Oryzomys caliginosus* [illegible] (*Vaginulus* [illegible] 27 [illegible] 1992 [illegible] 5 [illegible] .(Aguiar *et al.*, 1981) [illegible] Pascual *et al.*, 1981) [illegible] 1992 [illegible] 1950 [illegible] autochthonous [illegible] primate [illegible]

[illegible] .(García and Bruckner, 1997) [illegible] (*exulans* [illegible]) [illegible] %40 [illegible] 20 [illegible] 12 [illegible] 55 [illegible] %32.7 [illegible] .(Aguiar *et al.*, 1981) [illegible]

(Sawabe and Makiya, 1995) [illegible] .(Ambu *et al.*, 1997) [illegible]

[illegible] (3 [illegible] 50.000 [illegible] 20.000) [illegible] .(%82 [illegible] %11) [illegible] 116 [illegible] 1975 [illegible] 1966 [illegible] resction [illegible] 90 [illegible] (%53) [illegible] 34 .(Loría-Cortés *et al.*, 1980) [illegible] 13 – 6 [illegible] .(Morera *et al.*, 1982) [illegible]

[illegible] 13 [illegible] 82 [illegible]

16.5 %5 %30 %91.5

%11 %19.5 VI VII

%12 %25

.(Hwang and Chen, 1991)

125 1969 – 1968

%78

%50

Pleocytosis

(1998) II III IV VII

[illegible] paratenic [illegible]
[illegible]
.(Kliks *et al.*, 1982) [illegible]
[illegible] 16 [illegible]
[illegible] (*Achatina fulica* [illegible]) [illegible]
[illegible]
[illegible] 10 [illegible] 6 – 1 [illegible]
[illegible]
[illegible]
[illegible] 12 [illegible]
.(Kliks *et al.*, 1982) [illegible] 10 [illegible]
[illegible]
[illegible]
[illegible]

[illegible]

[illegible]

[illegible] (Tesh *et al.*, 1973) [illegible] (*S. hispidus*) [illegible] (slime [illegible]) [illegible] Kramer,) [illegible] (1998 [illegible]

[illegible] *Rattus* [illegible] *Melomys littoralis* [illegible] *Bandicota indica* [illegible]

[illegible]

.([illegible])

[illegible] (1991) [illegible] %86 [illegible] Ascaris [illegible] %83 [illegible]
.(Graeff-Teixeira *et al.*, 1997) .*suum*

[illegible] *Gnathostoma spinigerum* [illegible] (1990) [illegible] (1991) [illegible] 84 [illegible] %41.5 [illegible] .(Legrand and Angibaud 1998) presumptive [illegible] Eamsobhana *et al.*,) [illegible] %60-%50 [illegible] %100 [illegible]
.(1997

[illegible] prophlylaxin [illegible]
.[illegible]

[illegible] [5] [illegible] [12] [illegible] [1.5] [illegible] Zanini and Graeff-) [illegible] .(Teixeira 1995

[illegible]

Aguiar, P.H., P. Morera, J. Pascual. First record of *Angiostrongylus cantonensis* in Cuba. *Am J Trop Med Hyg* 30(5):963–965, 1981.

Ambu, S., A.N. Rain, J.W. Mak, D. Maslah, S. Maidah. Detection of *Angiostrongylus malaysiensis* circulating antigen using monoclonal antibody-based enzyme-linked immunosorbent assay (MAb-ELISA). *Southeast Asian J Trop Med Public Health* 28 Suppl:143–147, 1997.

Eamsobhana, P., H.S. Yong, J.W. Mak, D. Wattanakulpanich. Detection of circulating antigens of *Parastrongylus cantonensis* in human sera by dot-blot ELISA and sandwich ELISA using monoclonal antibody. *Southeast Asian J Trop Med Public Health* 28(3):624–628, 1997.

Garcia, L.S., D.A. Bruckner. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Graeff-Teixeira, C., L. Camillo-Coura, H.L. Lenzi. Histopathological criteria for the diagnosis of abdominal angiostrongyliasis. *Parasitol Res* 77(7):606–611, 1991.

Graeff-Teixeira, C., A.A. Agostini, L. Camillo-Coura, M.F. Ferreira-da-Cruz. Seroepidemiology of abdominal angiostrongyliasis: The standardization of an immunoenzymatic assay and prevalence of antibodies in two localities in southern Brazil. *Trop Med Int Health* 2(3):254–260, 1997.

Hwang, K.P., E.R. Chen. Clinical studies on angiostrongyliasis cantonensis among children in Taiwan. *Southeast Asian J Trop Med Public Health* 22 Suppl:194–199, 1991.

Juminer, B., G. Borel, H. Mauleon, *et al.* L'infestation murine naturelle par *Angiostrongylus costaricensis* Morera et Cespedes, 1971 à la Guadeloupe. *Bull Soc Pathol Exot* 86(5 Pt 2):502–505, 1993.

Kliks, M.M., K. Kroenke, J.M. Hardman. Eosinophilic radiculomyeloencephalitis: An angiostrongyliasis outbreak in American Samoa related to ingestion of *Achatina fulica* snails. *Am J Trop Med Hyg* 31(6):1114–1122, 1982.

Kramer, M.H., G.J. Greer, J.F. Quiñonez, *et al.* First reported outbreak of abdominal angiostrongyliasis. *Clin Infect Dis* 26(2):365–372, 1998.

Legrand, G., G. Angibaud. La meningite à eosinophiles due à *Angiostrongylus cantonensis*. *Rev Neurol (Paris)* 154(3):236–242, 1998.

Loría-Cortés, R., J.F. Lobo-Sanahuja. Clinical abdominal angiostrongylosis. A study of 116 children with intestinal eosinophilic granuloma caused by *Angiostrongylus costaricensis*. *Am J Trop Med Hyg* 29(4):538–544, 1980.

Mojon, M. Angiostrongylose humaine à *Angiostrongylus costaricensis*. *Bull Acad Natl Med* 178(4):625–631, 1994.

Morera, P. Abdominal angiostrongyliasis. *In*: Strickland, G.T., ed. *Hunter's Tropical Medicine*, 7th ed. Philadelphia: Saunders; 1991.

Morera, P., F. Pérez, F. Mora. Visceral larva migrans-like syndrome caused by *Angiostrongylus costaricensis*. *Am J Trop Med Hyg* 31(1):67–70, 1982.

Neafie, R.C., A.M. Marty. Unusual infections in humans. *Clin Microbiol Rev* 6(1):34–56, 1993.

Pascual, J.E., R.P. Bouli, H. Aguiar. Eosinophilic meningoencephalitis in Cuba, caused by *Angiostrongylus cantonensis*. *Am J Trop Med Hyg* 30(5):960–962, 1981.

Punyagupta, S., T. Bunnag, P. Juttijudata. Eosinophilic meningitis in Thailand. Clinical and epidemiological characteristics of 162 patients with myeloencephalitis probably caused by *Gnathostoma spinigerum*. *J Neurol Sci* 96(2–3):241–256, 1990.

Rambo, P.R., A.A. Agostini, C. Graeff-Teixeira. Abdominal angiostrongylosis in southern Brazil—prevalence and parasitic burden in mollusc intermediate hosts from eighteen endemic foci. *Mem Inst Oswaldo Cruz* 92(1):9–14, 1997.

Sawabe, K., K. Makiya. Comparative infectivity and survival of first-stage larvae of *Angiostrongylus cantonensis* and *Angiostrongylus malaysiensis*. *J Parasitol* 81(2):228–233, 1995.

Tesh, R.B., L.J. Ackerman, W.H. Dietz, *et al.* *Angiostrongylus costaricensis* in Panama. Prevalence and pathologic finding in wild rodents infected with the parasite. *Am J Trop Med Hyg* 22(3):348–356, 1973.

Zanini, G.M., C. Graeff-Teixeira. Angiostrongilose abdominal: Profilaxia pela destruição das larvas infectantes em alimentos tratados com sal, vinagre ou hipoclorito de sodio. *Rev Soc Bras Med Trop* 28(4):389–392, 1995.

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## ANISAKIASIS ĺƑƨƢƑĺƗƉǁƐ ƅƐƍ

**ICD-0 B81.0**

ǦÒǫÄä ÕƧ ğåşå ŏäå Û(Anisakiosis, anisakidosis) ğÂÊǹÂÎǫţă ŏäå ˙ğÂǻåäÄţă .cod worm ÆÕä ÕƧ ğåşå ô Äŋ Ûherring worm

*ǦÊǹÂÎǫţă* ˙â ÅÄDZJă ğåǻÊư ȸŋ ɄęƘä øǻÛä ǻŁ ɄŸÆÛä ŏäÆä äØŁ Õŋʒ ˙ğÆǤǤÊä şÛ (*porrocaecum, Terranova, Phocanema* ˙*ğÂǻåäÄţă*) *Pseudoterranova* Û*Anisakis*

Ascaridida (*Contracaecum* marine" Anisakidae ."ascarids *Pseudoterranova decipiens* *A. simplex* *pseudoterranova* Anisakidae *decipiens* I. A

*Pseudoterranova* piscivorous *Contracaecum* (paratenic transfer Mehlhorn and Walldorf,) .(1988

*pseudoterranova decipiens*

1955

[illegible] 1969 [illegible] 160 [illegible] 1968 [illegible]
[illegible] mandatory [illegible] 24 [illegible]
[illegible] 487 [illegible]
[illegible] 1976 [illegible]
[illegible] 50 – 20 [illegible]
[illegible] 1992/6 [illegible] 1989/6 [illegible] 107 [illegible]
*pseudoterranova* [illegible]
[illegible] 1995 [illegible] 80 [illegible] *.decipiens*
[illegible] 244 [illegible]
47 [illegible] (Uga *et al.*, 1996) [illegible] %11 [illegible]
[illegible] 1.008 [illegible]
[illegible] 14 [illegible] 2 – 1.5 [illegible]
.(García-Palacios *et al.*, 1996) [illegible]

[illegible] 3 [illegible] (1999) [illegible]
1997 [illegible] 23 [illegible]
[illegible] 3 [illegible] 5 [illegible] 11 [illegible] 16 [illegible]
*pseudoterranova decipiens* [illegible]
[illegible]
[illegible] 4 [illegible]
[illegible]
[illegible] %95 [illegible]
[illegible] 14 [illegible]
[illegible]
[illegible] %1.5 jacks (*Trachurus murphyi*) [illegible] 222 [illegible] %48.6
[illegible] 180 [illegible] %1.6 croakes (*Sciaena deliciosa*) [illegible] 381

"cojinobas" [illegible] 250 [illegible] (*Polyclemus peruanus*) "cocos" [illegible] 3 [illegible] 12 [illegible] (*Seriollela Violacea*) [illegible] 311 [illegible] %27 [illegible] Anisakidae [illegible] (*Cilus montti*) corvina [illegible] (*Merluccius gayi*) hake [illegible] Torres *et al*.,) [illegible] Sierra (*Thyrsites atun*) [illegible] cod [illegible] *pseudoterranova decipiens* [illegible] (1978 [illegible]

Ishikura *et al*.,) [illegible] (1993 *pseudoterranova* [illegible] *decipiens* [illegible] *pseudoterranova* [illegible] 56 [illegible] (Kagci *et al*., 1992) [illegible] histocytes [illegible] (Mendizabal-Bassagoiti, 1999) [illegible] (Moreno-Ancillo *et al*., 1997) [illegible]

.(Kakizoe *et al.*, 1995) [illegible]

[illegible] 24 – 12 [illegible]

[illegible] 7 [illegible] Smith and) [illegible] .(Wootten, 1978 [illegible] phlegmons [illegible] .(Matsuoka *et al.*, 1994) [illegible]

[illegible] 92 [illegible] %30 [illegible] %65 [illegible] *pseudoterranova* [illegible] 20 [illegible] .(Kliks, 1983) [illegible]

[illegible] *Contracaecum* [illegible] cod [illegible] *Contracaecum* [illegible] .(Smith and Wootton, 1978)

[illegible] 500 [illegible] 1993 [illegible]

[illegible] ceviche [illegible] 24 [illegible] seoasoned [illegible]

[illegible]

[illegible] cephalopods [illegible]

[illegible] Deardorff *et al*.,) [illegible] %70 [illegible] %50 [illegible] .(1991

[illegible] .(Matsumoto *et al*., 1992) [illegible] 6 [illegible] 4 [illegible] sonography [illegible] .(Ido *et al*., 1998) [illegible]

[illegible] .(Petithory *et al*., 1991) [illegible]

[illegible] 24 [illegible] °20– [illegible]

[illegible]

[illegible]

[illegible]

## [illegible]

Deardorff, T.L., S.G. Kayes, T. Fukumura. Human anisakiasis transmitted by marine food products. *Hawaii Med J* 50(1):9–16, 1991.

Deardorff, T.L., M.L. Kent. Prevalence of larval *Anisakis simplex* in pen-reared and wild-caught salmon (Salmonidae) from Puget Sound, Washington. *J Wildl Dis* 25(3):416–419, 1989.

García-Palacios, L., M.L. González, M.I. Esteban, E. Mirabent, M.J. Perteguer, C. Cuéllar. Enzyme-linked immunosorbent assay, immunoblot analysis and RAST fluoroimmunoassay analysis of serum responses against crude larval antigens of *Anisakis simplex* in a Spanish random population. *J Helminthol* 70(4):281–289, 1996.

Ido, K., H. Yuasa, M. Ide, K. Kimura, K. Toshimitsu, T. Suzuki. Sonographic diagnosis of small intestinal anisakiasis. *J Clin Ultrasound* 26(3):125–130, 1998.

Ishikura, H., K. Kikuchi, K. Nagasawa, *et al.* Anisakidae and anisakidosis. *Prog Clin Parasitol* 3:43–102, 1993.

Kagei, N., H. Isogaki. A case of abdominal syndrome caused by the presence of a large number of *Anisakis larvae*. *Int J Parasitol* 22(2):251–253, 1992.

Kakizoe, S., H. Kakizoe, K. Kakizoe, *et al.* Endoscopic findings and clinical manifestation of gastric anisakiasis. *Am J Gastroenterol* 90(5):761–763, 1995.

Kliks, M.M. Anisakiasis in the western United States: Four new case reports from California. *Am J Trop Med Hyg* 32(3):526–532, 1983.

Matsumoto, T., M. Iida, Y. Kimura, K. Tanaka, T. Kitada, M. Fujishima. Anisakiasis of the colon: Radiologic and endoscopic features in six patients. *Radiology* 183(1):97–99, 1992.

Matsuoka, H., T. Nakama, H. Kisanuki, *et al.* A case report of serologically diagnosed pulmonary anisakiasis with pleural effusion and multiple lesions. *Am J Trop Med Hyg* 51(6):819–822, 1994.

McClelland, G. *Phocanema decipiens*: Pathology in seals. *Exp Parasitol* 49(3):405–419, 1980.

Mehlhorn, H., V. Walldorf. Life cycles. *In*: Mehlhorn, H., ed. *Parasitology in Focus: Facts and Trends*. Berlin: Springer-Verlag; 1988.

Mendizabal-Basagoiti, L. Hypersensibilité à l'*Anisakis simplex*: À propos de 36 cas. *Allerg Immunol (Paris)* 31(1):15–17, 1999.

Moreno-Ancillo, A., M.T. Caballero, R. Cabanas, *et al.* Allergic reactions to *Anisakis simplex* parasitizing seafood. *Ann Allergy Asthma Immunol* 79(3):246–250, 1997.

Oliveira, A., S. Sánchez Rancano, P. Conde Gacho, A. Moreno, A. Martinez, C. Comas. Anisakiasis gastrointestinal. Siete casos en tres meses. *Rev Esp Enferm Dig* 91:70–72, 1999.

Petithory, J.C., M. Rousseau, F. Siodlak. Données seroepidémiologiques sur l'anisakiase. Consequences prophylactiques pour les produits de la pêche. *Ann Gastroenterol Hepatol (Paris)* 27(6):285–287, 1991.

Smith, J.W., R. Wootten. Anisakis and anisakiasis. *Adv Parasitol* 16:93–163, 1978.

Torres, P., G. Pequeño, L. Figueroa. Nota preliminar sobre Anisakidae (Railliet and Henry, 1912, Skrjabin and Korokhin, 1945), en algunos peces de consumo habitual por la población humana de Valdivia (Chile). *Bol Chil Parasitol* 33(1):39–46, 1978.

Uga, S., K. Ono, N. Kataoka, H. Hasan. Seroepidemiology of five major zoonotic parasite infections in inhabitants of Sidoarjo, East Java, Indonesia. *Southeast Asian J Trop Med Public Health* 27(3):556–561, 1996.

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## ASCARIASIS þžΓ‖ε ხεզ

### ICD-10 B77

.(Ascaridiasis ûAscaridiosis) ÀĄÔŏă ŏăá : ğÀźáăÀţă

*Ascaris* ŪøÆüăÀ˥ă ÀÀÔŏă :ĵÀÊφqă gáźÊư ŪĿ ÀĄÔŏă ŏăá Ōηăź3 :ğÀǦǦÊŏă ÀŌĒǫş ĵÀ3źÀŏă *A. suum* ȻÀÀøÀ˥ă ÀÀÔŏă :ÀÀÀøÀ˥ă gáźÊư ÀφÀǦĝľş *ûlumbricoides* ƳÒŏ ȸÒε .(Barriga, 1982) ÙŌź ǦÀÆÀǹ ǦÆDZźŏźÀÂźş ǦÆDZźŏźźøźŋ ÀęşÀź ĵÀÀÆǦÀş ÛǦŸÔŏă

6 – 3 … 35 – 20 … 20 – 15 … 12 … (Murrrell *et al.*, 1997) … prepatent … 60 – 50 … 75 – 60

… 1 … 644 … 42

[illegible] 20.000 [illegible] (Walsh and Warren, 1979) [illegible]

[illegible] %70 [illegible] %20 [illegible] 5 – 2 [illegible] 17 [illegible] 7 [illegible] 25 [illegible]

[illegible] (WHO, 1967) [illegible]

ascarid

(Barriga, 1997)

(Mazumder *et al.*, 1992)

reactivity

Inatomi *et al.*,)

(Petithory *et al.*, 1994) (1999

%0.01

1995 – 1994

14

[illegible] .(Maruyana *et al.*, 1997) [illegible]

.(Takeyama *et al.*, 1997) [illegible]

.(Barriga, 1997)

[illegible] 4 [illegible] E [illegible] 14 – 10 [illegible] 10 [illegible]

[illegible] (geohelminthiasis [illegible]

[illegible] 200.000 [illegible] 21 [illegible] 2.000 [illegible] 100 [illegible]

[illegible] .(Crewe and Smith, 1971) [illegible] 9 [illegible] .(Davies and Goldomid, 1978) [illegible]

[illegible]

(Kofie and Dipeolu, 1983)

denticles

*Anisakis simplex*

*Toxocara*

superfamilies

excretory

nematodes (Kennedy *et al.*, 1988)

massive

[illegible] 5 [illegible] %12 [illegible] (1993) [illegible] 2.5 [illegible] °30 [illegible] °22 [illegible] °40 [illegible] *Verticillium* [illegible] Lysek and Sterba,) [illegible] *chlamydosporium* .(1991

## [illegible]


Ayres, R.M., D.L. Lee, D.D. Mara, S.A. Silva. The accumulation, distribution and viability of human parasitic nematode eggs in the sludge of a primary facultative waste stabilization pond. *Trans R Soc Trop Med Hyg* 87(3):256–258, 1993.

Barriga, O.O. Ascariasis. *In*: Steele, J.H., section ed. Section B, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Crewe, W., D.H. Smith. Human infection with pig *Ascaris (A. suum)*. *Ann Trop Med Parasitol* 65(1):85, 1971.

Davies, N.J., J.M. Goldsmid. Intestinal obstruction due to *Ascaris suum* infection. *Trans R Soc Trop Med Hyg* 72(1):107, 1978.

Galvin, T.J. Development of human and pig *Ascaris* in the pig and rabbit. *J Parasitol* 54(6):1085–1091, 1968.

Ghiglietti, R., P. Rossi, M. Ramsan, A. Colombi. Viability of *Ascaris suum*, *Ascaris lumbricoides* and *Trichuris muris* eggs to alkaline pH and different temperatures. *Parassitologia* 37(2–3):229–232, 1995.

Inatomi, Y., T. Murakami, M. Tokunaga, K. Ishiwata, Y. Nawa, M. Uchino. Encephalopathy caused by visceral larva migrans due to *Ascaris suum*. *J Neurol Sci* 164(2):195–199, 1999.

Kennedy, M.W., J. Tierney, P. Ye, *et al*. The secreted and somatic antigens of the third stage larva of *Anisakis simplex*, and antigenic relationship with *Ascaris suum*, *Ascaris lumbricoides*, and *Toxocara canis*. *Mol Biochem Parasitol* 31(1):35–46, 1988.

Kofie, B.A., O.O. Dipeolu. A study of human and porcine ascariasis in a rural area of south-west Nigeria. *Int J Zoonoses* 10(1):66–70, 1983.

Lysek, H., J. Sterba. Colonization of *Ascaris lumbricoides* eggs by the fungus *Verticillium chlamydosporium* Goddard. *Folia Parasitol* 38(3):255–259, 1991.

Maruyama, H., Y. Nawa, S. Noda, T. Mimori. An outbreak of ascariasis with marked eosinophilia in the southern part of Kyushu District, Japan, caused by infection with swine ascaris. *Southeast Asian J Trop Med Public Health* 28 Suppl 1:194–196, 1997.

Mazumder, D.N., A. Santra, G. Dutta, N. Ghosh, M.K. Chowdhury. Hepatic lesions caused by excretory and secretory products of *Ascaris lumbricoides* in golden hamster. *Indian J Gastroenterol* 11(3):117–120, 1992.

Murrell, K.D., L. Eriksen, P. Nansen, H.C. Slotved, T. Rasmussen. *Ascaris suum*: A revision of its early migratory path and implications for human ascariasis. *J Parasitol* 83(2):255–260, 1997.

Petithory, J.C., A. Beddok, M. Quedoc. [Ascaridiases zoonoses: Visceral larva migrans syndromes.] *Bull Acad Natl Med* 178(4):635–645, 1994.

Phills, J.A., A.J. Harrold, G.V. Whiteman, L. Perelmutter. Pulmonary infiltrates, asthma and eosinophilia due to *Ascaris suum* infestation in man. *N Engl J Med* 286(18):965–970, 1972.

Takeyama, Y., S. Kamimura, J. Suzumiya, *et al.* Case report: Eosinophilic colitis with high antibody titre against *Ascaris suum*. *J Gastroenterol Hepatol* 12(3):204–206, 1997.

Walsh, J.A., K.S. Warren. Selective primary health care. An interim strategy for disease control in developing countries. *N Engl J Med* 301(18):967–974, 1979.

World Health Organization (WHO). *Control of Ascariasis. Report of a WHO Expert Committee.* Geneva: WHO; 1967. (Technical Report Series 379).


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## BAYLISASCARIASIS

*Baylisascaris* … ascarid … *procyonis* … ascarids … sables … bears … badgers … skunks … *transfuga* … 12 … 23 … 4 – 3 …

lagomrphs 19 paratenic 13 76 – 50 38 – 32

%94 %92 1.425 %72 33 %70 310 %82 (Kerr *et al.*, 1997)

1989 (Huff *et al.*, 1984) 1984 2000 1989 Goldberg *et*) neuroretinitis 13 (*al.*, 1993 Boschetti *et*) 10 (Cunningham *et al.*, 1994) .(*al.*, 1995

1.900 ... 300

4 – 2 ... ataxia ... torticollis ... stupor ... 7 ... tunnel

62 – 48 ... 14 – 12 ... (Rudmann *et al*., 1996) ... (Anderson 1999) ... (Ball *et al*., 1998) ... gibbon

immunoelec-

.(Gunningham *et al.*, 1994) totransfer

1994

*T. canis*

58 – 52 70 – 62

77 – 73 90 – 85

2.5

nests

Anderson, B.C. Congenital *Baylisascaris* sp. larval migrans in a newborn lamb. *J Parasitol* 85(1):128–129, 1999.

Ball, R.L., M. Dryden, S. Wilson, J. Veatch. Cerebrospinal nematodiasis in a white-handed gibbon (*Hylobates lar*) due to *Baylisascaris* sp. *J Zoo Wildl Med* 29(2):221–224, 1998.

Boschetti, A., J. Kasznica. Visceral larva migrans induced eosinophilic cardiac pseudotumor: A cause of sudden death in a child. *J Forensic Sci* 40(6):1097–1099, 1995.

Cunningham, C.K., K.R. Kazacos, J.A. McMillan, *et al.* Diagnosis and management of *Baylisascaris procyonis* infection in an infant with nonfatal meningoencephalitis. *Clin Infect Dis* 18(6):868–872, 1994.

Goldberg, M.A., K.R. Kazacos, W.M. Boyce, E. Ai, B. Katz. Diffuse unilateral subacute neuroretinitis. Morphometric, serologic, and epidemiologic support for *Baylisascaris* as a causative agent. *Ophthalmology* 100(11):1695–1701, 1993.

Huff, D.S., R.C. Neafie, M.J. Binder, G.A. De Leon, L.W. Brown, K.R. Kazacos. The first fatal *Baylisascaris* infection in humans: An infant with eosinophilic meningoencephalitis. *Pediatr Pathol* 2(3):345–352, 1984.

Kazacos, K.R., W.M. Boyce. *Baylisascaris* larva migrans. *J Am Vet Med Assoc* 195(7):894–903, 1989.

Kerr, C.L., S.E. Henke, D.B. Pence. *Baylisascariasis* in raccoons from southern coastal Texas. *J Wildl Dis* 33(3):653–655, 1997.

Rudmann, D.G., K.R. Kazacos, S.T. Storandt, D.L. Harris, E.B. Janovitz. *Baylisascaris procyonis* larva migrans in a puppy: A case report and update for the veterinarian. *J Am Anim Hosp Assoc* 32(1):73–76, 1996.

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# CAPILLARIASIS [illegible]

**[illegible] B83.8 [illegible] ICD-10 B81.1**
**ICD-10 B81.1 Intestinal capillariasis; B83.8 Other specified intestinal helminthiases**

.Capillariosis [illegible]

[illegible] *C. hepatica* [illegible] *Capillaria philippinensis* [illegible] *C. aerophila* [illegible] 5 – 2.5 [illegible] 4 – 1.5 [illegible] barrel [illegible] *Trichuris* [illegible] 14 – 10 [illegible] emberyonate [illegible] 3 [illegible]

[illegible] .(Neva and Brown, 1994) [illegible] piscivorous [illegible] .(Cross and Basaca-Seville, 1991) [illegible]

[illegible] 8 – 5 [illegible] enclose [illegible] 2 – 1 [illegible]

[illegible] 3 – 2 [illegible]

[illegible] 7 – 5 [illegible] 10 – 7 [illegible] 40

[illegible] 1963 [illegible] 1.500 [illegible] 4.000 [illegible] %3 [illegible] .(Banzón, 1982) 1967 [illegible] .(Peng *et al.*, 1993) [illegible] 17 [illegible] 1 [illegible] 3 [illegible] 41 [illegible] 2000 – 1989 [illegible] 20 [illegible] 3 [illegible] 1 [illegible] 1 [illegible] 1 [illegible] 1 [illegible] 2 Dronda *et*) [illegible] 9 .(*al.*, 1993

[illegible] 82 [illegible] %44 [illegible] .%85 [illegible] %0.7 [illegible] .(Namue and Wongsawd, 1997) [illegible] 76 [illegible] %8 [illegible] (Davoust *et al.*, 1997)

[illegible] 11 [illegible] 1985 [illegible] 1 [illegible] 14 [illegible] 2 [illegible] 9) [illegible] 3 [illegible] 1 [illegible] 5 [illegible] 1 [illegible] 3 [illegible] 1 [illegible] 1 :2000 – 1989 [illegible] 10 [illegible] 30 [illegible] 1997 [illegible] 1 [illegible] 3 [illegible] .(Davoust *et al.*, 1997) [illegible]

[illegible] 1977 [illegible] 38 [illegible] 1 [illegible] 5 [illegible] 7 [illegible] 1 [illegible] 1 [illegible] 9 [illegible]
.(Aftandelians *et al.*, 1977) [illegible]

[illegible] 45 – 20 [illegible] intercurrent [illegible]
.(Cross, 1992) [illegible]

[illegible]

[illegible] .(Attah *et al.*, 1983) [illegible]

[illegible] .(Slais, 1973) [illegible]

[illegible] .(Aftandelians *et al*., 1977)

[illegible] gerbils [illegible] .(Banzón, 1982) [illegible]

[illegible] massive [illegible] .(McClallum, 1993) [illegible] .(Brander *et al*., 1990)

[illegible]

[illegible]

[illegible] .(Banzón, 1982) [illegible]

[illegible] cannibalism [illegible] 30 [illegible]

[illegible] dirt [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Afrandelians, R., F. Raafat, M. Taffazoli, P.C. Beaver. Pulmonary capillariasis in a child in Iran. *Am J Trop Med Hyg* 26(1):64–71, 1977.

Attah, E.B., S. Nagarajan, E.N. Obineche, S.C. Gera. Hepatic capillariasis. *Am J Clin Pathol* 79(1):127–130, 1983.

Banzón, T. Human intestinal capillariasis (*Capillaria philippinensis*). *In*: Schultz, M.O., section ed. Section B, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Brander, P., T. Denzler, M. Henzi. *Capillaria hepatica* bei einem Hund und einem Igel. *Schweiz Arch Tierheilkd* 132(7):365–370, 1990.

Cross, J.H. Intestinal capillariasis. *Clin Microbiol Rev* 5(2):120–129, 1992.

Cross, J.H., V. Basaca-Sevilla. Capillariasis *philippinensis*: A fish-borne parasitic zoonosis. *Southeast Asian J Trop Med Public Health* 22 Suppl:153–157, 1991.

Davoust, B., M. Boni, D. Branquet, J. Ducos de Lahitte, G. Martet. Recherche de trois infestations parasitaires chez des rats capturés à Marseille: Évaluation du risque zoonosique. *Bull Acad Natl Med* 181(5):887–895, 1997.

Dronda, F., F. Chaves, A. Sanz, R. López-Vélez. Human intestinal capillariasis in an area of nonendemicity: Case report and review. *Clin Inf Dis* 17(15):909–912, 1993.

McCallum, H.I. Evaluation of a nematode (*Capillaria hepatica* Bancroft, 1893) as a control agent for populations of house mice (*Mus musculus domesticus* Schwartz and Schwartz, 1943). *Rev Sci Tech* 12(1):83–93, 1993.

Namue, C., C. Wongsawad. A survey of helminth infection in rats (*Rattus* spp.) from Chiang Mai Moat. *Southeast Asian J Trop Med Public Health* 28 Suppl 1:179–183, 1997.

Neva, F.A., H.W. Brown. *Basic Clinical Parasitology*, 6th ed. Norwalk: Appleton & Lange; 1994.

Peng, H.W., H.L. Chao, P.C. Fan. Imported *Opisthorchis viverrini* and parasite infections from Thai labourers in Taiwan. *J Helminthol* 67(2):102–106, 1993.

Slais, J. The finding and identification of solitary *Capillaria* hepatica (Bancroft, 1893) in man in Europe. *Folia Parasitol (Praha)* 20(2):149–161, 1973.

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## CUTANEOUS IARVA MIGRANS [illegible]

**[illegible] :ICD-10 B76.9**
**ICD-10 B76.9 Hookworm disease, unspecified**

serpiginous [illegible] (creeping [illegible]) (larva currens [illegible] (eruption [illegible] .(*Strongyloides* [illegible]

[illegible] *Ancylostoma* [illegible] anylostomid [illegible] *Bunostomun* [illegible] *Uncinaria stenocephala* [illegible]

[illegible] *phlebotomum* [illegible] cenent [illegible] .(Hotez *et al.*, 1992) [illegible]

[illegible] Díaz-Camacho) [illegible] *Pelodera* [illegible] (*et al.*, 1998 [illegible] *strongyloides* .(Jones *et al.*, 1991) [illegible] *Gasterophylus* [illegible] arthropods .(Cypess, 1982) *Hypoderma*

[illegible] *Necator* [illegible] 1 [illegible] 0.37 [illegible]

[illegible]

[illegible] (Barriga, 1997) [illegible] 98 [illegible] (Caumes *et al.*, 1995) [illegible] 269 [illegible] (Jelinek *et al.*, 1994) [illegible]

[illegible] (1996) [illegible] 80 [illegible] %96 [illegible] %49 [illegible] %68 [illegible] (1988) [illegible]

[illegible] %73) [illegible] %7) [illegible] 8 – 2 [illegible]

Richey *et al.*,) [illegible] 55 – 18 [illegible] (Jelinek *et al.*, 1994) [illegible] E [illegible] .(1996 [illegible] ivermectin [illegible]

[illegible] interdigital [illegible] 5 [illegible] mutilation [illegible]

[illegible]

.(Barriga, 1997)

serpiginous

269

pyoderma (%25)

(%10) arthropod-reactive (%18)

.(Caumes *et al.*, 1995) (%5) (%6) tungiansis (%9)

%25

(Barriga, 1997)

5 – 4

## ŮøШƐþøDžǁƐ


Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Caumes, E., J. Carriere, G. Guermonprez, F. Bricaire, M. Danis, M. Gentilini. Dermatoses associated with travel to tropical countries: A prospective study of the diagnosis and management of 269 patients presenting to a tropical disease unit. *Clin Infect Dis* 20(3):542–548, 1995.

Cypess, R.H. Cutaneous larva migrans. *In*: Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Díaz-Camacho, S.P., M. Zazueta Ramos, E. Ponce Torrecillas, *et al*. Clinical manifestations and immunodiagnosis of gnathostomiasis in Culiacán, Mexico. *Am J Trop Med Hyg* 59(6):908–915, 1998.

Hotez, P.J., S. Narasimhan, J. Haggerty, *et al*. Hyaluronidase from infective *Ancylostoma* hookworms larvae and its possible function as a virulence factor in tissue invasion and in cutaneous larva migrans. *Infect Immun* 60(3):1018–1023, 1992.

Jelinek, T., H. Maiwald, H.D. Nothdurft, T. Loscher. Cutaneous larva migrans in travelers: Synopsis of histories, symptoms, and treatment of 98 patients. *Clin Infect Dis* 19(6):1062–1066, 1994.

Jones, C.C., T. Rosen, C. Greenberg. Cutaneous larva migrans due to *Pelodera strongyloides*. *Cutis* 48(2):123–126, 1991.

Malgor, R., Y. Oku, R. Gallardo, I. Yarzabal. High prevalence of *Ancylostoma* spp. infection in dogs, associated with endemic focus of human cutaneous larva migrans, in Tacuarembó, Uruguay. *Parasite* 3(2):131–134, 1996.

Richey, T.K., R.H. Gentry, J.E. Fitzpatrick, A.M. Morgan. Persistent cutaneous larva migrans due to *Ancylostoma* species. *South Med J* 89(6):609–611, 1996.

Saleh, F.C., C.E. Kirkpatrick, O. De Haseth, J.B. Lok. Occurrence of some blood and intestinal parasites in dogs in Curaçao, Netherlands Antilles. *Trop Geogr Med* 40(4):318–321, 1988.


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# DIOCTOPHYMOSIS ŀƑШĞĪǿĪŽǁƐ ƅƐơ

**ǌþƢƣ ƕĭŸǋǆ ƕĭǆƐơĭơ ŀƐơƐǋơ ICD-10 B 83.8**
**ICD-10 B83.8 Other specified helminthiases**

.Dioctophymiasis ğÀDzĞǪÀţă ŏäǻ : ğÀzǻäÀţă

3ȑzǪķ ĞÀzŋǻ ŏäÀþ ğĶĞõ ğǻzÊư *Dioctophyma renale* ĞÀzŸÒöä ĞDzĞǪÀţă : ğÀĔĞĞÊöä Ž ·ĞÀDZäÆöäş ĞÀƎöä ğÀĔĞŸÒöä Ž ɉÀĔğɟä ȐĤä Žş ÛÕÀţă ɄøǪĔŸõ Ž ŋöÀĞöä øzÛöä Ž ÕöØöş Ûƪŋ 12 – 5 ¢ȑÀʒş Ûÿ 1 ʔøǪğ ʔǯƥɟä ŋöÀĞöä ɄŸÆÀÛöä òzü ŌÔÀ Æę · ãŸÒöä

102 15

*Lumbricus variegatus*

120 – 70

*Esox lucius*، *Ictalurus nebulosus*

*R. Clamitans*، *Rana pipiens*

*Idus*

*R. septentrionalis*،

6 – 5

.(Barriga, 1982)

%1.5، otter %2، %48، %18

%37 .weasel

%1 Jackals %35،

[illegible] %60 [illegible] 204 [illegible] 1969 [illegible] 13 [illegible] 1982 [illegible] (Barriga, 1982) [illegible] (Galiérrez *et al.*, 1989) [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Barriga, O.O. Dioctophymiasis. *In:* Schultz, M.O., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses.* Boca Raton: CRC Press; 1982.

Fyvie, A. *Dioctophyma renale. In:* Davis, J.W., R.C. Anderson, eds. *Parasitic Diseases of Wild Mammals.* Ames: Iowa State University Press; 1971.

Gutiérrez Y., M. Cohen, C.N. Machicao. Dioctophyme larva in the subcutaneous tissues of a woman in Ohio. *Am J Surg Pathol* 13(9):800–802, 1989.

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## DRACUNCULIASIS [illegible]

### ICD-10 B72

Dracunculosis) [illegible] guinea-worm [illegible] .(dracontiasis

[illegible] *Dracunculus medinensis* [illegible] 120 – 50 [illegible] 0.4 [illegible] 29 – 12 [illegible] 2 – 1 [illegible]

[illegible] *insignis* [illegible]

nutria ... Skunk ... muskrat ... *insignis* ...

... $^{3-1}$ ... $^{15}$ ... *Cyclops* ... copepod ...

... $^{6-3}$ ... coelomic ...

... $^{4-3}$ ... $^{14-10}$ ... 500.000 ... $^{18-12}$ ...

[illegible] (Muller, 1979) [illegible] 19° [illegible] 30° [illegible] 25° [illegible] 43 [illegible] 1947 [illegible] 1978 [illegible] 26.980 [illegible] 10 [illegible] 1976 [illegible] 1977 [illegible] (WHO,) [illegible] %4 [illegible] (1982 [illegible] (CDC, 1992) 1989 [illegible] %57 [illegible] 1990 [illegible] 1991 [illegible] %33 [illegible] 100 [illegible] 1992 [illegible] 3 [illegible] 17 [illegible] 2000 [illegible] (Hopkins and Ruiz-Tiben, 1992) [illegible] 75.223 [illegible] (WHO, 2003a).

[illegible] (Petit *et al.*, 1989) %50 [illegible] %80 [illegible] 1989 [illegible] (%82) 982 [illegible] 1.200 [illegible] %50 [illegible] (Okoye *et al.*, 1995) [illegible] 40 – 20 [illegible] (Johnson and Joshi, 1982) [illegible]

[illegible] Antilles [illegible]

[illegible] (CDC, 1998) [illegible] 1995 [illegible] WHO,) *insignis* [illegible] .(1979

[illegible] 4 [illegible] .(Hoyos *et al.*, 1995) [illegible]

[illegible] prepatent [illegible] larviposition [illegible] Bloch *et*) [illegible] (*al.*, 1999 [illegible] fainting [illegible]

[illegible]

[illegible] .(Bloch and Simonsen, 1998) [illegible] 100 [illegible] .(Kale, 1977) [illegible] 206 [illegible] 1.200 [illegible] 982 (%82) [illegible] 431 (%44) [illegible] 193 (%20) [illegible] (%21) [illegible] 152 (%16) [illegible] .(Okoye *et al.*, 1995)

[illegible] purulet [illegible] .(Beyer *et al.*, 1999)

[illegible]

[illegible] Eberhard and) [illegible]

(Brandt, 1995

.(Muller, 1979)

[illegible] %97 [illegible] %83 [illegible] G4 [illegible] Bloch) [illegible] %97 [illegible] .(and Simonsen 1998

[illegible] .(Bloch *et al*., 1998) [illegible]

[illegible] 1980 [illegible] CDC [illegible] WHO,) [illegible] .(2003b %0 [illegible] %60 [illegible] 30.000 [illegible]

[illegible] .(Bierlich, 1995) [illegible] Ilegbod *et al*.,) [illegible] .(1991 [illegible] %96 [illegible] %88 [illegible] temephos [illegible] .(Hunter, 1997) [illegible]

[illegible] (Kaul *et al.*, 1992) [illegible] 15 – 12 [illegible] 200 [illegible] (Imtiaz *et al.*, 1990) [illegible]

[illegible]

Beyer, T.A., R.D. Pinckney, A.J. Cooley. Massive *Dracunculus insignis* infection in a dog. *J Am Vet Med Assoc* 214:366–368, 1999.

Bierlich, B. Notions and treatment of guinea worm in northern Ghana. *Soc Sci Med* 41:501–509, 1995.

Bloch, P., P.E. Simonsen. Studies on immunodiagnosis of dracunculiasis. I. Detection of specific serum antibodies. *Acta Trop* 70:73–86, 1998.

Bloch, P., B.J. Vennervald, P.E. Simonsen. Studies on immunodiagnosis of dracunculiasis. II. Search for circulating antigens. *Acta Trop* 70:303–315, 1998.

Bloch, P., M. Lund, B.J. Vennervald, P.E. Simonsen. Human serum albumin and immunoglobulin on *Dracunculus medinensis*. *Acta Trop* 73:135–141, 1999.

Eberhard, M.L., F.H. Brandt. The role of tadpoles and frogs as paratenic hosts in the life cycle of *Dracunculus insignis* (Nematoda: Dracunculoidea). *J Parasitol* 81:792–793, 1995.

Hopkins, D.R., E. Ruiz-Tiben. Surveillance for dracunculiasis, 1981–1991. *MMWR CDC Surveill Summ* 41:1–13, 1992.

Hoyos, C.B., G.A. Jara, C.M. Monzon. Reporte de un caso de dracunculosis en un canino en la provincia de Formosa—Argentina. *Rev Inst Med Trop Sao Paulo* 37:273–275, 1995.

Hunter, J.M. Bore holes and the vanishing of guinea worm disease in Ghana's upper region. *Soc Sci Med* 45:71–89, 1997.

Ilegbodu, V.A., A.E. Ilegbodu, R.A. Wise, B.L. Christensen, O.O. Kale. Clinical manifestations, disability and use of folk medicine in *Dracunculus* infection in Nigeria. *J Trop Med Hyg* 94:35–41, 1991.

Imtiaz, R., J.D. Anderson, E.G. Long, J.J. Sullivan, B.L. Cline. Monofilament nylon filters for preventing dracunculiasis: Durability and copepod retention after long term field use in Pakistan. *Trop Med Parasitol* 41:251–253, 1990.

Johnson, S., V. Joshi. Dracontiasis in western Rajasthan, India. *Trans R Soc Trop Med Hyg* 76:36–40, 1982.

Kale, O.O. The clinico-epidemiological profile of guinea-worm in the Ibadan District of Nigeria. *Am J Trop Med Hyg* 26:208–214, 1977.

Kaul, S.M., R.S. Sharma, T. Verghese. Monitoring the efficacy of temephos application and use of fine mesh nylon strainers by examination of drinking water containers in guineaworm endemic villages. *J Commun Dis* 24:159–163, 1992.

Muller, R. Guinea-worm disease: Epidemiology, control, and treatment. *Bull World Health Organ* 57:683–689, 1979.

Okoye, S.N., C.O. Onwuliri, J.C. Anosike. A survey of predilection sites and degree of disability associated with guineaworm (*Dracunculus medinensis*). *Int J Parasitol* 25:1127–1129, 1995.

Petit, M.M., M. Deniau, C. Tourte-Schaefer, K. Amegbo. Étude epidémiologique longitudinale de la dracunculose dans le sud du Togo. *Bull Soc Pathol Exot Filiales* 82:520–530, 1989.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Update: dracunculiasis eradication—Ghana and Nigeria, 1991. *MMWR Morb Mortal Wkly Rep* 41:397–399, 1992.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Imported dracunculiasis—United States, 1995 and 1997. *MMWR Morb Mortal Wkly Rep* 47:209–211, 1998.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

World Health Organization (WHO). Dracunculiasis surveillance. *Wkly Epidemiol Rec* 57:65–72, 1982.

World Health Organization (WHO). Dracunculiasis [web page]. Available at www.who.int/ctd/dracun/progress.htm. Accessed 11 March 2003. 2003a.

World Health Organization (WHO). Dracunculiasis Erradication [web page]. Available at www.who.int/ctd/dracun/index.html. Accessed 11 March 2003. 2003b.

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## ĺ ƒĭĜεþĬll ƀεqǋ ĺ ƒĎǍŝŧƟĬǍllε ƀεq
## ESOPHAGOSTOMIASIS AND TERNIDENSIASIS

### njþƢĮc ƕĭŸǋǰ ƕĭǋŷĎǍ ĺ εqεǋq ICD B81.8
### ICD-10 B81.8 Other specified intestinal helminthiases

ûʕȷäÆĀÆöä ȸȝ ǦƤĀÅöäʔ ǦĒqäÆĀÆöä ğĀDZäĀʅä ûHelminthoma Ƀåş Æöä ȳøʐöä ˸ğĀʐåäĀţä .nodular worm ǦĀÆĪÕĦöä gåş Æöä ʔşÆʒ

*ǦǴĤĨǫţä ǦŁÕĬŧå ţʐǿ* ȸɳ ǦĒqäʐÛèÜ ğäåʐÊư ƲŁ ôäĀɲǰä ȻØŁ Õɳäʒ ˸ğĀǴǴÊöä *ǦŁÕĬŧåş* *O. stephanostomum* *ǦĒqĀĀÛòǰä ǦŁÕĬŧåş* *Oesophagostomum bifurcum*

*Ternidens* [illegible] (*O. apiostomum* [illegible]) *O. aculeatum* [illegible] [illegible] *deminutus* [illegible] (1980) [illegible] .1989 [illegible]

[illegible] 13 – 8 [illegible] 7 – 5 [illegible] cuticle [illegible] cuticular [illegible] .nodular worms [illegible] 3 – 1 [illegible] .(Barriga, 1997) [illegible] 40 – 30 [illegible]

[illegible] 0.6 [illegible] 16 – 12 [illegible]

.apes

(Ross *et al.*, 1989) 1989 70

%4

.(Karim and Yang., 1992) 1992

%59

5 – 3

.(Krepel *et al.*, 1992) 10

%70 %53

.(Flynn, 1973)

%76

.(Flynn, 1973)

.(Goldsmid, 1982)

55.54 coprologic .%87

%3.75)

%5.75

28 (1988)

.(Ross *et al.*, 1989)

.(Krepel *et al.*, 1995)

.(Goldsmid, 1982)

[illegible] (1982) [illegible] 33.7 [illegible] .(Krepel and polderman, 1992) [illegible]

[illegible] G4 [illegible] %95 [illegible] rDNA [illegible] (Polderman *et al.*, 1993) [illegible] .(Rosmtad *et al.*, 1997) [illegible]

[illegible]

[illegible]

Barriga, O.O. *Veterinary Parasitology for Practitioners.* 2nd ed. Edina: Burgess International Group; 1997.

Flynn, R.J. *Parasites of Laboratory Animals.* Ames: Iowa State University Press; 1973.

Goldsmid, J.M. Ternidens infection. In: Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses.* Boca Raton: CRC Press; 1982.

Karim, N., C.O. Yang. Oesophagostomiasis in man: Report of the first Malaysian case with emphasis on its pathology. *Malays J Pathol* 14:19–24, 1992.

Krepel, H.P., A.M. Polderman. Egg production of *Oesophagostomum bifurcum*, a locally common parasite of humans in Togo. *Am J Trop Med Hyg* 46:469–472, 1992.

Krepel, H.P., S. Baeta, A.M. Polderman. Human *Oesophagostomum* infection in northern Togo and Ghana: Epidemiological aspects. *Ann Trop Med Parasitol* 86:289–300, 1992.

Krepel, H.P., S. Baeta, C. Kootstra, A.M. Polderman. Reinfection patterns of *Oesophagostomum bifurcum* after anthelmintic treatment. *Trop Geogr Med* 47:160–163, 1995.

Levine, N.D. *Nematode Parasites of Domestic Animals and of Man*, 2nd ed. Minneapolis: Burgess; 1980.

Pages, A., K. Kpodzro, S. Baeta, K. Akpo-Allavo. La "tumeur" de Dapaong. Helminthiase à Oesophagostome. *Ann Pathol* 8:332–335, 1988.

Polderman, A.M., H.P. Krepel, J.J. Verweij, S. Baeta, J.P. Rotmans. Serological diagnosis of *Oesophagostomum* infections. *Trans R Soc Trop Med Hyg* 87:433–435, 1993.

Romstad, A., R.B. Gasser, P. Nansen, A.M. Polderman, J.R. Monti, N.B. Chilton. Characterization of *Oesophagostomum bifurcum* and *Necator americanus* by PCR-RFLP of rDNA. *J Parasitol* 83:963–966, 1997.

Ross, R.A., D.I. Gibson, E.A. Harris. Cutaneous oesophagostomiasis in man. *J Helminthol* 63:261–265, 1989.

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## GNATHOSTOMIASIS ɭ ƑȉĎŽƩƻǁɛ ƅƐɋ

### ICD-10 B83.1

*ÛĞŁŧ8Àöä* ȸ3 ǦƤÀöä ǥÀDZÀƬţä ğÀçƘöä öäå Û Gnathostomosis ğÀŧ8Àöä öäå : ğÀɀäãÀţä .wandering swelling ÕÕÀǭţä ӯøɀǭöä

*ÛGnathostoma spinigerum ǥØÀÕţä ĞŁŧ8Àöä* ğÀçÀΛ ɄŁ ʔşÆȞöä ȻØŁ Õɳäɀ3 : ğÀŁĞĞÊöä *ĞŁφäÆŁöä ĞŁŧ8Àöäş ÛG. doloresi ǤţúţäĞŁŧ8Àöäş G. hispidum öÀʒȞÎöä ĞŁŧ8Àöäş* ğÀÀTäş âŸÒöä Ž ÆDZɀΛ ğäåɀÊŧţä ȸɳ ɄŸŁÀù *ĞÀØÀÕöä ĞŁŧ8Àöä* .G. nipponicum ɄŸŁÀÛɀ *öÀʒȞÎöä ĞŁŧ8Àöä* Àɳǖ Ûɉ ÀÊφqä ɃÆȞk Æç ÀŒǖ 1890 ӯÀ3 ØÀɳ 8À3 .ĞΛƎöäş ĞADZäÆöä ƙǵ Ž .1924 ØÀɳ ɉÀÊφqä Ž ɄŸŁÀÛõ ƘɀÀ3ş Û (Boar ÀÀȞöä) ĞΛƎöä ΛΛäΛΛƖä Ž ÆDZɀΛ ɉǖ ȸÒɛş Û (ÀÀȞöä) ĞΛƎöä ΛΛäΛΛƖäş ΛΛäΛΛƖä Ž ɄŸŁÀÛõ 1989 ӯÀ3 Ž *ǤţúţäĞŁŧ8Àöä* ğÂŁɳ *ĞŁŧ8Àöä* ɉǖ ÆDZş ÌĞΛÀÕk ƘęɀöäÈÀφ Žş Û (Nawa *et al.*, 1989) ÌȒΛǖ ɉÀÊφqä ɃÆȞk ğÀçÀΛ ƙä ĘΛÀÀǭöä ȸÒɛ ·ÌφÀŁǥǖ ɉÀÊφqä ɃÆȞk ɉǖ ȸÒɛ Ûâ À3 ȸää ɄŸŁÀù ɄŁş *ÛĞŁφäÆŁöä*

[illegible]) head bulb [illegible] ( [illegible]) hooks [illegible] (AKahane *et al.*, 1998) [illegible] 39.7 [illegible] 36.7 [illegible] 34.5 [illegible]

[illegible]

cuticle [illegible] 8 [illegible] 5 – 2.5 [illegible] 3 – 1 [illegible] *Cyclops* [illegible] copepod [illegible] 10 [illegible] Hemocele [illegible] 4 [illegible] 4 [illegible] 200 [illegible] 1 [illegible] paratenic [illegible] ( [illegible]) [illegible] ( [illegible]

([illegible]) [illegible] 6

[illegible] 36 [illegible] (Ando *et al.*, 1992) [illegible]

serpent

2 – 1

(*Mustela sibirica itatsi*)

Ando *et*) 90 – 69 .(*al*., 1992

Rusnak and Lucey,) 98 .(1993 .1998

ĞöÅğ 300 ɉÜ ɍÜ 1970 ÿÅȝ ÕĮÊȮţä Ž ƙǪÅÀÎä ƙǪöÅğ ȯşÜ ÂĮĮq Ź ·ĞĮÆĮŤYöä ÅÒÅÀŋÜ Ž Díaz Camacho *et*) ÕĮÊȮţä ȯÅō Ž ɉÅõÅĮÖÅõ Ž 1995ş 1992 ƙä ÅŢȥäÀĤǪèä Ź Æę ʔÀn̈Ü ā ȥÅDZ Ž ȥȮȥäÅõÜ Ž 1997ş 1993 ɄŋÅȝ ƙä ĞöÅğ 98 õÅÅĿ ɉÅõ ÅŁõ Û(*al.*, 1998 Ž ĞÅÀÎĞöä ʔşÆĤöä ȸŋ ğ ɍÅğ ĶÅòş ÅŁõ Û(Rojas-Molinn *et al.*, 1999) ÕĮÊȮţä Ž ĞÅÀÎĞöä ğ ɍÅĤŊÝö ʡÝȝɉä ÂĮõÀǪöä ɉÅõ ·(Ollague *et al.*, 1988) øşäȥõɉäş ƙǪÅDZøɉä ğÅĶäȥǪŋ Ƙȡ şÜ ğøáÅφ ĞÅÀÎĞöä ʔşÆĤöä ·ĞÅè Ȯõ ʡȓÀţä ğÅÅŋ ȸȝ ŋĬĞÅ ǬĮğ ÛɉÅäÅĮöäş ÆφYÅĶ ÅĮöäÀǪèÜ Ž ĞÅáäÅȥ ğ ɍÅğ ĶÝDzè ·ÅÅÂĮöÅŋş ÅĮÊĮφşÆφÜş ĞĮÅĮÔöä ÆÅŢäş ÆÅŢäş ƙÔöä Ž (ĞÝĮÝę)

·ğÆĤŊǪţä ğÅÅɍȥöä Ž ÅĮφøȥÅĮÖÅõ ĞÅɍşş (ÕĮäÅÀèÜ) ƙÛÊÝȥş

ĞõÛÅŋ ɄÅȥ ·ɉÅÊφqä Ž ɄĿ Åư ÛƘǰȮäş ÛĮøÅÎǪφä ÀǰõÜ ğÅφäȥĮΣä Ž *ğØÅÅÕţä ĞĮŁ8ÁÖä ĞĮŁ8ÁÖä* ɄÝĮÅù Ƀȥȝ āYȮöä ȸŋ %4ş ÙÛÕöä ȸŋ %35 ɉÅõ ɉÅäÅĮöä āȥÅDZ ĞφȥùȥŊ ·ğÅęƘöä Ƀȥȝ (*Ophiocephalus argus*) āØĤöä ȯÅţä ÕƧ ȸŋ %100 ƂÜ %60ş Û*ğØÅÅÕţä* ȸŋ %90ş eel ÈĮÝȮφɉä ȸŋ %80ş ÕŁÊöä ȸŋ %37 Ž ÆφYÅĶ ȧäȥèÜ Ž ğÅęƘöä ğÆDZş ·ţáÅÅȒöä

ğɍÅğ ĶŁƱ ÅŁõ ÛɉäȥÅĶş ÅÅøȥõş ƙÔöä Ž ɉÅÊφqä Ž *ŏÅĴĤÎöä ĞĮŁ8ÁÖä* ğÆDZş ȸŋ áøȥǪÊŋ ÕƧ ȝŋ ĶÝn̈áÜ ɄøǪöä *ŏÅĴĤÎöä ĞĮŁ8ÁÖä* ȸȝ ɉÅäÅĮöä Ž ğÅĮŁ8ÁÖä ŏäá ȸŋ ĞÅÀȒğ ·ÅäøşÜş ÅĮöäÀǪèÜş ÅĮèÜ Ž ÀÅäÅÅʅä Ž ÅĮĞÊφ ĞĤəÅì ʔşÆĤöä ·ɉÅäÅĮöä şÜ ÅÅøȥõ şÜ ƙÔöä Ž ğáȥDZȥŋ ʔşÆĤöä ɉÜ 1991 ÿÅȝ ƙÔöä Ž ÅÅÅÂøÅn̈ 3.478 ʡÝȝ ĶÅÀDZÜ Ğèäøá ğÆDZş ÛɃÀÅÅq şÜ ÙèȥǪŋ ɃȥǰõÜ ÿÆơ ɄøǪöä ğÅφäȥĮΣä ȸŋ Åȝȥφ 38 ƙä ȸŋş ·ÅŢÅŋ %15 ÅÅøȥõş ɉÅäÅĮöäş ƙÔöä Ž *ĞĮφÅäÅĮöä ĞĮŁ8ÁÖä* ÆDZȥĶ ·*ğØÅÅÕţä ĞĮŁ8ÁÖä* ȝŋ ÅõÀǪÎŋ %23 ɉÅõ ŋĮÝĞǪöä Ź ·ÙÕȥ ɉÅäÅĮöä āȥÅDZ Ž ɉÅÊφqä Ž *Ğţúţä ĞĮŁ8ÁÖä* ğÆDZş ·áøȥǪÊţä ÕŁÊöä ĞDzĮǪφ 1ş ĞÅÆÝDZ 23 ·ĞöÅğ 25 ȸȝ ŋĮÝĞǪöä Ź Æę ɉÅõ 1997 ÿÅȝ ȯȥÝШş Û1989 Ž ĞöÅğ ȯşÜ ȸȝ ·(Nawa *et al.*, 1997) ĞĮφȥȯȥę 1ş ĞÅȥəø

ƂÜ ÛÙÕȥ ɄəÅĴǪèä ȮÒÎäş ÛɄÝĮÅÛöä ȼĮȥ ȮÔÅ ·ŋəäá Ƀȥǭ ɉÅÊφqä ·ɉÅÊφqä Ž ôÀţä ʅŢĤŋ Ž ·ɉÅÊφqä ğÆĤŋ Ž ÀÕǪÊĶ ɍş ÛÕòäȥǪŋ ȮÒÎä ĞęƘöä ÀDZÅő ·ɄÊÅƨä ǰȒÅöä

[illegible] (Rusnak and Lucey, 1993) [illegible] (Díaz Camacho *et al.*, 1998) [illegible] (*Oncorhynchus masou masou*) [illegible]

[illegible] 18 [illegible] 3 [illegible] blisters [illegible] .(Akahane *et al.*, 1998) 30 [illegible] 25 [illegible]

[illegible] (1990) [illegible] *Angiostrongylus cantonensis* [illegible] filariae [illegible] .(Biswas *el al.*, 1994) [illegible] 12 [illegible] :1994 [illegible]

[illegible] serosanguineous [illegible] Barriga,) [illegible] .(1997 [illegible]

[illegible]

[illegible] *O. tadianus, Ophiocephallus argus* [illegible] (*Clarias batrachus*) [illegible] – *Ophiocephallus* [illegible] .(Daengsvang, 1982) [illegible]

[illegible] .*Fasciola* [illegible] .(Anantaphruti, 1989) [illegible] 11 [illegible] .(Tuntipopipat *et al.*, 1989) [illegible] 9 [illegible]

[illegible] enzootic [illegible] (1997) [illegible] 5 [illegible] °4 [illegible]

# UøɯɛþøĎǁɛ


Akahane, H., M. Sano, M. Kobayashi. Three cases of human gnathostomiasis caused by *Gnathostoma hispidum*, with particular reference to the identification of parasitic larvae. *Southeast Asian J Trop Med Public Health* 29(3):611–614, 1998.

Akahane, H., K. Shibue, A. Shimizu, S. Toshitani. Human gnathostomiasis caused by *Gnathostoma doloresi*, with particular reference to the parasitological investigation of the causative agent. *Ann Trop Med Parasitol* 92(16):721–726, 1998.

Anantaphruti, M.T. ELISA for diagnosis of gnathostomiasis using antigens from *Gnathostoma doloresi* and *G. spinigerum*. *Southeast Asian J Trop Med Public Health* 20(2):297–304, 1989.

Ando, K., H. Tokura, H. Matsuoka, D. Taylor, Y. Chinzei. Life cycle of *Gnathostoma nipponicum* Yamaguti, 1941. *J Helminthol* 66(1):53–61, 1992.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Biswas, J., L. Gopal, T. Sharma, S.S. Badrinath. Intraocular *Gnathostoma spinigerum*. Clinicopathologic study of two cases with review of literature. *Retina* 14(5):438–444, 1994.

Daengsvang, S. Gnathostomiasis. *In*: Schultz, M.O., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Díaz Camacho, S.P., M. Zazueta Ramos, E. Ponce Torrecillas, *et al.* Clinical manifestations and immunodiagnosis of gnathostomiasis in Culiacán, Mexico. *Am J Trop Med Hyg* 59(6):908–915, 1998.

García, L.S., Bruckner, D.A. *Diagnostic Medical Parasitology*, 3rd ed. Washington, D.C.: ASM Press; 1997.

Nawa, Y. Historical review and current status of gnathostomiasis in Asia. *Southeast Asian J Trop Med Public Health* 22 Suppl:217–219, 1991.

Nawa, Y., J. Imai, K. Ogata, K. Otsuka. The first record of a confirmed human case of *Gnathostoma doloresi* infection. *J Parasitol* 75(1):166–169, 1989.

Nawa, Y., H. Maruyama, K. Ogata. Current status of gnathostomiasis *dorolesi* in Miyazaki Prefecture, Japan. *Southeast Asian J Trop Med Public Health* 28 Suppl 1:11–13, 1997.

Ollague, W., E. Gómez, M. Briones. *Gnathostoma spinigerum* y su dinámica de transmisión al hombre. Primer reporte en Ecuador y América. *Med Cutan Ibero Lat Am* 16:291–294, 1988.

Punyagupta, S., T. Bunnag, P. Juttijudata. Eosinophilic meningitis in Thailand. Clinical and epidemiological characteristics of 162 patients with myeloencephalitis probably caused by *Gnathostoma spinigerum*. *J Neurol Sci* 96(2–3):241–256, 1990.

Rojas-Molina, N., S. Pedraza-Sánchez, B. Torres-Bibiano, H. Meza-Martínez, A. Escobar-Gutiérrez. Gnathostomosis, an emerging foodborne zoonotic disease in Acapulco, Mexico. *Emerg Infect Dis* 5(2):264–266, 1999.

Rusnak, J.M., D.R. Lucey. Clinical gnathostomiasis: Case report and review of the English-language literature. *Clin Infect Dis* 16(1):33–50, 1993.

Tuntipopipat, S., R. Chawengkiattikul, R. Witoonpanich, S. Chiemchanya, S. Sirisinha. Antigens, antibodies and immune complexes in cerebrospinal fluid of patients with cerebral gnathostomiasis. *Southeast Asian J Trop Med Public Health* 20(3):439–446, 1989.

# GONGYLONEMIASIS [illegible]

[illegible] **ICD-10 B83.8**

**ICD-10 B83.8 Other specified helminthiases**

.Gongylonematosis [illegible]

[illegible] *Gongylonema pulchrum* [illegible] Thelaziidea [illegible] spiruroid [illegible] Bear [illegible] .(Cappucci *et al.*, 1982) [illegible] (*Sciurus niger*) Squirrel [illegible] .(Coyner *et al.*, 1996)

[illegible] Rumen [illegible] 0.3 – 0.15 [illegible] 62 [illegible] 0.5 – 0.2 [illegible] 145 [illegible] *Gongylonema* [illegible] *Aphodius, Blaps, Ontophagus* [illegible] *Blatella germanica* [illegible] coprophagia [illegible] coleopteran

·( ô ζÈGöä 3ř ş) ŏÀÊöÀæ gøşÆöä ÆÈĤkş ÏGÀÀÕk

46 ĶŸDzè ÆÕζ ÛgøåÀφ *ĞŸÈŧƨä ĞÈÕζDzÄ8öÀæ* ĞÀÀÎGöä ʔşÆĤöä ˸ǫşÆΣäş ŽäÀ8ƨä ţäζǪöä ÿÀ3 ȷÀÀÀǹÜş Û1994 ÿÀ3 ȷÀǪÈζÀřŬ ȷÀǪöÀǵ ĶŸDzè ÀŧÕ Û1982ş 1864 ɄŋÀ3 ƙæ ÙÕζ ĞöÀǵ ĶÔÁì ·(Eberhard *et al.*, 1994) ǵÆĦǪţä ğÀÀɍζöä Ž ǵÆǵäş ĶφÀÕ ȻØŁ ȸŋş Û2000 āÀ8ţäş ÀÈöÀÛÀÜş ÀÀøÀ8ÀŁş (ɄøφÀφζÀ ÀDZÀȾŋ Ž) ÀÈφÀţÜş ÀÀøÀ8Ÿäş ƙÔöä Ž ĞÀÀÎGöä ʔşÆĤöä ÀÈζ¥ÊȡζÀş ǵÆĦǪţä ğÀÀɍζöäş ÀÈÕÀkş ÀȮφ¥ÀKèş ĘäÀÊöä ɄøǪÈζζÊöä åÀƠɍäş äÆÀŸÀäζÈφş ·ĞÕäÀÊöä

ÀÈèä Ž ğÆDZş ÆÕζ ·3èäş ŌȮÎæş Ûğ ÀφäζÈΣä ƙæ ÏÈζäÀ8DZ ǵÀÎǪÀŋ *ĞŸÈŧƨä ĞÈÕζDzÄ8öä* ĞÀDZäÆöä ğäÀǪŎä Ž ʔşÆĤöä øÀÎǪφä ZŸǪ∑ ·ĞÀåÀƠɍä ÀÈèşøş Àæşøş Üş ǵÆĦǪţä ğÀÀɍζöäş ȸŋ %5.9 Ž ɄŸÈÀÛöä ÆDZş ÛǵÆĦǪţä ğÀÀɍζöä Ž ĶÀÀDZÜ ğÀǵζÊŋ ɄÀζ – ĞÕÛÀţä ÆÊǵ %10 Žş ÛŽäÀ8ƨä Ōòɉä ʡŸ3 ÏåÀŧǪ3ä %21 БŬ %0 ȸŋ dzşäÀǪÀ ʔÆŋ 3ŋ ÏÀÀÀøÀǹ 1.518 Ž ƀÀÊţä Ž ÀŋÜ ·äÆÀøζŸζ ĞÀɍş Ž ǵÀÕæ 20 ȸŋ %5 Žş ÛÀÈDZøζDZ ğÀÀɍş Ž ǵÀÕæ 29 ȸŋ ÿÀÀȡɉä ȸŋ %95 БŬ %39ş ÛĞ8öÀGöä ĞÈìÀţä ȸŋ %94 БŬ %32 Ž ɄŸÈÀÛöä ÆDZş ÆÕζ ÀÈφäÀÕşÜ Ž *ĞŸÈŧƨä ĞÈÕζDzÄ8öä* ğÆDZş ÆÕζ ȷäÀÀÜ Ž ȷäÀȾù ƀÀÊŋ ÀŋÜ ·ÀÀäÀÀʅä ȸŋ %37 БŬ %0ş ·ÀȾÔĦζ Ź ɄøǪöä ĞÈìÀţä ȸŋ %49.7 ŏɃÀŋ

Ž ȼǪÕÀǵ ĞDzÈǪφ ɄÊÈəø ŌȮÎæ ĞÈÎÀÀƠ ɄŸÈÀÛöä ȸ3 ĞƤÀÀöä ğÀζǿä ˸ȷÀÊφqä Ž ôÀţä ȻÀÀÎŸö ĞÈùÀÁţä ĶƠ ĞÕĞÛöä Ž ȓÀÎÀæ ōÀĦǪk ğÀÈŸÈÀÛöä ğÆDZş ·ĞÈùÀÁţä ĶƠş ĞÈùÀÁţä ʈÀöä āÀȾǪöäş ÿζĤŸGöä āÀȾǪöä ǫşÆǵ ÆōŭK ·ƙǩäζŸöäş ζǹÀöä ŌÀΣäş ÆŸÔöä ŌÀΣäş Ğ3Ÿöäş ·ÏφÀÈǵÜ

eroded ĞŸōŭǪŋş ĞζäÀφ ğÀÁÛöş ʡŋÆŋ āÀĤöŬ ǫşÆǵ ÀǪÀŧȒǩ ƙÔöä Ž ȷÀǪöÀǵ ĶÀòş ·ŏɃÀţä ĞÈùÀƯ ʡŸ3

ĶƠş ŏɃÀţä ĞÈùÀƯ Ž *ĞŸÈŧƨä ĞÈÕζDzÄ8öä* ğÆDZş ˸ğäÀǪŎä Ž ˸ğÀφäζÈΣä Ž ôÀţä şÀ8Àş ĞÀŸǪƯ ğÀŁÀΘä Ž ōÀĦǪÀ ȷŬ ȷřÀÀöä ɄŸÈÀÛŸö ȸȮ∑ ȼφŬ ɍŬ ÛɄÊÈəø ŌȮÎæ ĞÈùÀÁţä ·êÀȮöäş ʈÀöä 8ζDZş ÿζĤŸGöä

[illegible] stratificed squamous [illegible] hyperemia [illegible]

[illegible] (6 – 4) [illegible] *Aphodius* [illegible] %90 [illegible] %60 [illegible] 193 [illegible] 1 [illegible] *Geotrupes* [illegible] *Aphodius* [illegible]

[illegible]

[illegible]

[illegible]

[illegible] *[illegible]* [illegible]

[illegible]

Cappucci, D.T., J.K. Augsburg, P.C. Klinck. Gongylonemiasis. *In*: Steele, J.H., section ed. Section C. Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Coyner, D.F., J.B. Wooding, D.J. Forrester. A comparison of parasitic helminths and arthropods from two subspecies of fox squirrels (*Sciurus niger*) in Florida. *J Wildl Dis* 3(3)2:492–497, 1996.

Eberhard, M.L., C. Busillo. Human *Gongylonema* infection in a resident of New York City. *Am J Trop Med Hyg* 61(1):51–52, 1999.

Jelinek, T., T. Loscher. Human infection with *Gongylonema pulchrum*: A case report. *Trop Med Parasitol* 45(4):329–330, 1994.

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## LAGOCHILASCARIASIS [illegible]

**[illegible] ICD-10 B83.9**
**ICD-10 B83.9 Helminthiasis, unspecified**

[illegible] *Lagochilascaris minor* [illegible] 0.8 – 0.2 [illegible] 20 – 6 [illegible] agouti [illegible] (Moraes *et al*., 1983) [illegible]

[illegible] .(Campos *et al.*, 1992) [illegible] 20 [illegible] 9 [illegible]

[illegible] 1982 [illegible] 19 [illegible] (Volcan *et al.*, 1982; Moraes *et al.*,) [illegible] (2000 – 1982 [illegible] 7 [illegible] .(1983 [illegible]

[illegible] 5 × 3 [illegible] 6 [illegible] 3 [illegible] .(Vargas-Ocampo and Alvarado-Alemán, 1997) [illegible] Veloso *et al.*,) [illegible] .(1992 .(Bento *et al.*, 1993)

[illegible] .(Amato and Pimentel-Neto, 1990) [illegible] .(Volcan *et al.*, 1991) (*Speothos venaticus*)

[illegible]

[illegible] *Lagochilascaris* [illegible] (1992) [illegible]

[illegible] .(Volcan *et al.*, 1982) [illegible]

[illegible]

[illegible]


Amato, J.F., L. Grisi, M. Pimentel-Neto. Two cases of fistulated abscesses caused by *Lagochilascaris major* in the domestic cat. *Mem Inst Oswaldo Cruz* 85(4):471–473, 1990.

Bento, R.F., C. do C. Mazza, E.F. Motti, Y.T. Chan, J.R. Guimaraes, A. Miniti. Human lagochilascariasis treated successfully with ivermectin: A case report. *Rev Inst Med Trop Sao Paulo* 35(4):373–375, 1993.

Campos, D.M., L.G. Freire Filha, M.A. Vieira, J.M. Paco, M.A. Maia. Experimental life cycle of *Lagochilascaris minor* Leiper, 1909. *Rev Inst Med Trop Sao Paulo* 34(4):277–287, 1992.

Moraes, M.A., M.V. Arnaud, P.E. de Lima. Novos casos de infecção humana por *Lagochilascaris minor* Leiper, 1909, encontrados no estado do Para, Brasil. *Rev Inst Med Trop Sao Paulo* 25(3):139–146, 1983.

Vargas-Ocampo, F., F.J. Alvarado-Alemán. Infestation from *Lagochilascaris minor* in Mexico. *Int J Dermatol* 36(6):56–58, 1997.

Veloso, M.G., M.C. Faria, J.D. de Freitas, M.A. Moraes, D.F. Gorini, J.L. de Mendonca. Lagoquilascariase humana. Sobre tres casos encontrados no Distrito Federal, Brasil. *Rev Inst Med Trop Sao Paulo* 34:587–591, 1992.

Volcan, G.S., C.E. Medrano. Infección natural de *Speothos venaticus* (Carnivora: Canidae) por estadios adultos de *Lagochilascaris* sp. *Rev Inst Med Trop Sao Paulo* 33(6):451–458, 1991

# MAMMOMONOGAMIASIS [illegible]

[illegible] **ICD-10 B83.3**

**ICD-10 B83.3 Syngamiasis**

.syngamosis [illegible]

[illegible] *M. nasicola* [illegible] *Mammomonogamaus* (*syngamus*) *laryngeus* [illegible] .Syngamidae [illegible] bubaline [illegible] 0.3 × [illegible] 3 [illegible] 0.5 × [illegible] 10 [illegible] *S. trachea* [illegible]

[illegible] 60 [illegible] (%45) 27 [illegible]

[illegible] (Santos and Fukuda, 1977) [illegible]
Freire and Biachin) [illegible] 48 [illegible] (%37.5) 18 [illegible]
[illegible] 70 [illegible] %2.8 [illegible] (1979
[illegible] (1980 [illegible])
.(Van Aken *et al.*, 1996) [illegible] 597 [illegible] %23 [illegible]
:(Cunnac *et al.*, 1988) [illegible] 79 [illegible]
:1995 [illegible] .(Mornex *et al.*, 1980) [illegible] 51
[illegible] .(Nosanchuk *et al.*, 1995) ([illegible] 5) [illegible] 100 [illegible]
[illegible] .2000 [illegible] 1988 [illegible] 9 [illegible]
Pipitgool *et al.*,) [illegible] – [illegible] 3 [illegible]
.(Kim *et al.*, 1998) [illegible] (1992

[illegible]
Birrel,) [illegible]
[illegible] 10 [illegible] (1977
[illegible] :1977 [illegible]
[illegible]
[illegible]
.(Gardiner and Schantz, 1983) [illegible]
[illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]

[illegible]

[illegible]

[illegible]

## [illegible]


Cunnac, M., J.F. Magnaval, D. Cayarci, P. Leophonte. À propos de 3 cas de syngamose humaine en Guadeloupe. *Rev Pneumol Clin* 44:140–142, 1988.

Freire, N.M.S., I. Biachin. Prevalência de *Mammomonogamus laryngeus* (Raillet, 1899) em bovinos no Rio de Janeiro. *Arq Esc Vet UEMG (Minas Gerais)* 31:23–24, 1979.

Gardiner, C.H., P.M. Schantz. *Mammomonogamus* infection in a human. Report of a case. *Am J Trop Med Hyg* 32(5):995–997, 1983.

Honduras, Secretaría de Recursos Naturales. *Muestreo patológico de Honduras.* Tegucigalpa: Secretaría de Recursos Naturales; 1980.

Kim, H.Y., S.M. Lee, J.E. Joo, M.J. Na, M.H. Ahn, D.Y. Min. Human syngamosis: The first case in Korea. *Thorax* 53:717–718, 1998.

Macko, J.K., V. Birova, R. Flores. Deliberations on the problems *of Mammomonogamus* species (Nametoda, Syngamidae) in ruminants. *Folia Parasit (Praha)* 28(1):43–49, 1981.

Mornex, J.F., J. Magdeleine, J. de Thore. La syngamose humaine *(Mammomonogamus nasicola)* cause de toux chronique en Martinique. 37 observations recentes. *Nouv Presse Med* 9(47):3628, 1980.

Nosanchuk, J.S., S.E. Wade, M. Landolf. Case report of and description of parasite in *Mammomonogamus laryngeus* (human syngamosis) infection. *J Clin Microbiol* 33(4):998–1000, 1995.

Pipitgool, V., K. Chaisiri, P. Visetsupakarn, V. Srigan, W. Maleewong. *Mammomonogamus (Syngamus) laryngeus* infection: A first case report in Thailand. *Southeast Asian J Trop Med Public Health* 23(2):336–337, 1992.

Santos, I.F., R.F. Fukuda. Ocorrência de *Syngamus laryngeus* em bovinos do Municipio de Novo Horizonte. *S P Cientifica (S Paulo)* 5:391–393, 1977.

Van Aken, D., J.T. Lagapa, A.P. Dargantes, J. Vercruysse. *Mammomonogamus laryngeus* (Railliet, 1899) infections in cattle in Mindanao, Philippines. *Vet Parasitol* 64(4):329, 1996.

# MICRONEMIASIS [illegible]

**[illegible] ICD-10 B83.8**
**ICD-10 B83.8 Other specified helminthiases**

[illegible] *Micronema deletrix* [illegible] 445 – 445 [illegible] 1954 [illegible] *Halicephalobus gingivalis* [illegible] (1998) [illegible] (1998) [illegible]

[illegible] .(Shadduck *et al.*, 1979)

[illegible] parthenogenic [illegible] .(Gardiner *et al.*, 1981) [illegible] mare [illegible] Greiner *et al.*,) *Cephalobus* [illegible] .(1991

[illegible] Shadlduk) [illegible] (Hoogstraten *et al.*, 1975) [illegible]

.2000, 1988 .(et al., 1979; Gardiner et al., 1981

2000 – 1988 12 1985 7

1 1 2)

28
.(Ferris et al., 1972)

87.500
.(Alstad et al., 1979)

kicking decubites

encephalomalacia

.(Shadduck et al., 1979)

Alstad, A.D., I.E. Berg, C. Samuel. Disseminated *Micronema deletrix* infection in the horse. *J Am Vet Med Assoc* 174(3):264–266, 1979.

Anderson, R.C., K.E. Linder, A.S. Peregrine. *Halicephalobus gingivalis* (Stefanski, 1954) from a fatal infection in a horse in Ontario, Canada with comments on the validity of *H. deletrix* and a review of the genus. *Parasite* 5(3):255–261, 1998.

Ferris, D.H., N.D. Levine, P.D. Beamer. *Micronema deletrix* in equine brain. *Am J Vet Res* 33(1):33–38, 1972.

Gardiner, C.H., D.S. Koh, T.A. Cardella. *Micronema* in man: Third fatal infection. *Am J Trop Med Hyg* 30(3):586–589, 1981.

Greiner, E.C., M.B. Mays, G.C. Smart, Jr., S.E. Weisbrode. Verminous mastitis in a mare caused by a free-living nematode. *J Parasitol* 77(2):320–322, 1991.

Hoogstraten, J., W.G. Young. Meningo-encephalomyelitis due to the saprophagous nematode, *Micronema deletrix*. *Canad J Neurol Sci* 2(2):121–126, 1975.

Shadduck, J.A., J. Ubelaker, V.Q. Telford. *Micronema deletrix* meningoencephalitis in an adult man. *Am J Clin Pathol* 72(4):640–643, 1979.

Teifke, J.P., E. Schmidt, C.M. Traenckner, C. Bauer. *Halicephalobus* (Syn. *Micronema*) *deletrix* als Ursache einer granulomatosen Gingivitis und Osteomyelitis bei einem Pferd. *Tierarztl Prax Ausg G Grosstiere Nutztiere* 26(3):157–161, 1998.

# STRONGYLOIDIASIS [illegible]

## ICD-10 B78

.Strongyloidosis [illegible]

*Strongyloides* [illegible] *.S. fuelleborni* [illegible] *stercoralis* [illegible] (*S. ransomi* [illegible]) [illegible]

[illegible] 2.2 [illegible] 50 [illegible]

[illegible] 5 – 2 [illegible]

[illegible] haploid [illegible] triploid [illegible] diploid [illegible] °37 [illegible] °20 [illegible] .(Barriga, 1997)

[illegible] 24 [illegible] 16 – 8 [illegible] 4 – 2 [illegible]

[illegible]

[illegible] [30] [illegible] 35 [illegible] .(1982

[illegible] .(1982) [illegible] *fuelleborni* [illegible] .(1979) [illegible]

[illegible] 34 [illegible] 1947 [illegible] 4 [illegible] 86 [illegible] 21 [illegible]

øÂDZ Ž 100000 ş ĞÆöÅŧÎöä ÅÒÅÄŋÜ Ž 400000 ÛƘQÆÒÅÄŋɟä ȸŋ ĞÆäζQèɟä ĘùÅţä Ž 200 БÜ 2000 ӯÅȝ Ęǵɍ ÄÅÄÕk Ž ĞÅÎĞöä ʔşäÆȞöä áÆȝ ááää ·(ɃáÅƬä ÙÆ‡ä) ÕÆÅÆèÅĞöä ÅÒÅÄŋÜ ɉäÆÝä Õõş ÕÆÊÒţä Ž ʔşÆȞöä ĶŢǵζö (et al,2000) ɉζÆŸŋ ·ĞÆöÅQöä ğɍÆȞţä ğÄõá 1985 – 1965 ӯÅȝ ƙä ·ĞÆäζÅɛä ÅÒÅÄŋÜ ȸŋ ӯÅÊęÜş ÛʔÛèζöä Ž ·43 Ƀäζȡøɟä Û20 ÅŧÅä Û236 ĞÆÊÅÄöä ÅÆÅÆȡ Û16 ÅÆĞŋζöζõ Û76 ƘQÅDZøɟä ÆÊǵ 58 – 4% ȸŋ ÕÅäÄƎöä Ž øÅÎQɍä ȡzşäÅk Ü60 ȯÆȞţä ɉÅõ ·şƘĞöÅä âζQÅζõɟä ɉÅõ ·ÕÅäÄƎöä Ž·ÙÕζ āŸÒöä şÜ ɉÅÊqä Ž ĞÆÅÆǵÜ ğɍÅǵ õÅÆŁ ɄŸÆÎk Žş ÛĞÕÛÅţä ȐÅŸäş Û1992 Ž ÅÔÅì 126 Ž 56 ɉşäÅŋɟä ɭÆŸęq ĞŸòǿä Ğȝζŧ Õä Ž øÅÎQɍä Ž ʔÅǹÜ ğÅèäøá ğÄƬşÜ ·1995 Ž ȝȑζţä ÈÅ Ž ÅÔÅì 174 Ž 0% БÜ ÅÕǵɍ 108 âäƘDZ âÅÆζ ĞÅɍş Ž ӯÅȞÛöä ȝŋ ƘŸŋÅȞQţä ȸŋ 264 Ž 1% ȸŋ ÕęÜ ÅøÅÎQöä ÕÅäÄƎöä ȸŋ ÅÔÅì 222 Ž 104 Ü1993 Ž ζöşÅä şÅè ʔÅÎŋ Ž ÂƱÜ ÅÆŸÆÅù ÅÔHζ 37621 Ž ȸŋ58 Žş Ü1997 Ž ȝȑζţä ÈÅ Ž ÅÔÅì 432 Ž 113 ş Ü1995 Ž ζöşÅä ɉÅè Ž ·şƘÅDZ Ƀáζøá Ž äÆÅqÅä ÅȒÅÄŋ 99 Ž 152 ş ÜζõζĞŋÅƘä ȸŋ ÅÔÅì 485 ÈQÆøζõ ȸŋ ȯÅÅùÜ 207 Ž 2% øÅÎQɍä ȯÆȞŋ ɉÅõ Û1999 – 1989 ƙäş ·ƘQÅDZøɟä 110 Ž 16 ȯÆȞţä ĶÅõ ·şƘĞöä Ž ·ÅQŸè Ž ʔÅÎţä БÜ äζŸǹáÜ ŸÅù 36 Ž 8.3 ş ȸŋ 20 Ž ʔşÆȞöä ğÆDZş ·ğÅQÅöä ÈÅ Ž ·ʔÅÎţä Ž ÅȒÅÄŋ 1511 Ž 24 ş ÛȯÅÅùÜ Ž ŸÅù 70 ȸŋ 4% Žş ÜɉäáζÊöä āζÅDZ Ž ŸÅù 275 ȸŋ 33 ş ÅÆäáζè ÅÄDZɍ 241 ĞÆùäÄÕζÆöä ζÆö ĞÅøζƬƤ Ž ŸÅù 137 ȸŋ 22 Žş ÜÅÆÅÆȡ Ž ŸÅù 64 Žş ÜÅÆÅÆõ Ž ƘȞŧQƒ ȸŋ ÅÔÅì 2462 ȸŋ 25.1 ş ɉÅÒÊöä ȸŋ 2008 ȸŋ 10.1 Žş ÜĞÆĞȞÎöä ğÅɍζöä Ž ĞÆŋζÒΣä ğäƎQÅţä ÕĞę ȸŋ ÂƱÜ ÅÄäÅä ÅÔHζ 216275 ȸŋ 0.4 Žş ÛÅÅƘDzÆ ĘùÅţä Ž ĞÅùÅÕöä ǵƘÕÅöä ĞÅáÅÔQęɍä ğÅȝζŧÕä Ž 8.5 БÜ ʔşÆȞöä ȯÆȞŋ ÕÔÅ Æę ·ǵÆHQţä ǪÆǵ ÛĞÆŸÕȞöä ȏäÅŋɟä ğÅÆÅÎQÊŋ Õǯŋ ğÅÊèúţä Žş ĞÅøäÆţä ĞÕÛÅţä ȸŋ ǵøÅΣä ĞĞùÄöä ĘùÅţä Ž 3% ʔşÆȞöä ȯÆȞŋ äşÅDzQÅ Åŋ ÅøáÅ ÛʔÅǹÜ ĞÆǵÅ ȸŋ ·ɃäÄƎöä ǫζŸQŸö ÎÄζ õÅÆŁ ·ĞζÅɛä ȼĞì ÛǵøÅΣä

ÆDZş ·ȯÆQȞŋ ȻøÅÎQöä ȸÒö ÛƁÅȞöä öÅDZøÜ Ž ţäζQŋ āŸÒöä Ž ğÄÆäζÛèɟä öäá ɉÜ şÆĞÅ

646 ... *fuelleborni* ...

(1973) ...

*fuelleborni* ...

(1977) ... *fuelleborni* ...

180 ... 76 ...

(1977)

154 ... *fuelleborni* ...

(1993)

[illegible] *et al.*,1995) [illegible]

[illegible] *Procyonis* [illegible]

[illegible] 1999) [illegible] 65 [illegible] *et al.*,) [illegible] 1996 [illegible]

[illegible] *et al.*, 1996) [illegible]

[illegible] *et al.,* 1994) [illegible] *et al.,* 1984) [illegible] *et al.,* 1998) [illegible] *et al.,* 1997) [illegible]

[illegible] (1997) [illegible] (1977) [illegible] *fuelleborni* [illegible]

[illegible] [6] [illegible]

[illegible]

[illegible]

[illegible] 974) [illegible]

[illegible] *fuelleborni* [illegible]

[illegible] 20 [illegible] 76 [illegible] 980; [illegible] 977)

[illegible] *Procyonis* [illegible]

[illegible]

[illegible] *fuelleborni* [illegible]

[illegible] *fuelleborni* [illegible] 472 (1993) [illegible] 70 [illegible] 42 [illegible] 9 [illegible] 15 [illegible] *et al.*, 1994) [illegible] −94 [illegible] *et al.*, [illegible] (1995 [illegible] *et al.*,1997) [illegible]

[illegible]

Abdul-Fattah, M.M., M.E. Nasr, S.M. Yousef, M.I. Ibraheem, S.E. Abdul-Wahhab, H.M. Soliman. Efficacy of ELISA in diagnosis of strongyloidiasis among the immune-compromised patients. *J Egypt Soc Parasitol* 25:491–498, 1995.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Brown, R.C., M.H. Girardeau. Transmammary passage of *Strongyloides* sp. larvae in the human host. *Am J Trop Med Hyg* 26:215–219, 1977.

Celedón, J.C., U. Mathur-Wagh, J. Fox, R. Garcia, P.M. Wiest. Systemic strongyloidiasis in patients infected with the human immunodeficiency virus. A report of 3 cases and review of the literature. *Medicine (Baltimore)* 73:256–263, 1994.

Chabasse, D., C. Le Clec'h, L. de Gentile, J.L. Verret. Le larbish. *Sante* 5:341–345, 1995.

Costa-Cruz, J.M., C.B. Bullamah, M.R. Gonçalves-Pires, D.M. Campos, M.A. Vieira. Cryo-microtome sections of coproculture larvae of *Strongyloides stercoralis* and *Strongyloides ratti* as antigen sources for the immunodiagnosis of human strongyloidiasis. *Rev Inst Med Trop Sao Paulo* 39:313–317, 1997.

Coutinho, H.B., T.I. Robalinho, V.B. Coutinho, *et al.* Immunocytochemistry of mucosal changes in patients infected with the intestinal nematode *Strongyloides stercoralis*. *J Clin Pathol* 49:717–720, 1996.

de Kaminsky, R.G. Evaluation of three methods for laboratory diagnosis of *Strongyloides stercoralis* infection. *J Parasitol* 79:277–280, 1993.

Emad, A. Exudative eosinophilic pleural effusion due to *Strongyloides stercoralis* in a diabetic man. *South Med J* 92:58–60, 1999.

Flynn, R.J. *Parasites of Laboratory Animals*. Ames: Iowa State University Press; 1973.

Foucan, L., I. Genevier, I. Lamaury, M. Strobel. Meningite purulente aseptique chez deux patients co-infectés par HTLV-1 et *Strongyloides stercoralis*. *Med Trop (Mars)* 57:262–264, 1997.

Georgi, J.R., C.L. Sprinkle. A case of human strongyloidiasis apparently contracted from asymptomatic colony dogs. *Am J Trop Med Hyg* 23:899–901, 1974.

Grove, D.I., C. Northern. Infection and immunity in dogs infected with a human strain of *Strongyloides stercoralis*. *Trans R Soc Trop Med Hyg* 76:833–838, 1982.

Hira, P.R., B.G. Patel. *Strongyloides fuelleborni* infections in man in Zambia. *Am J Trop Med Hyg* 26:640–643, 1977.

Hira, P.R., B.G. Patel. Human strongyloidiasis due to the primate species *Strongyloides fuelleborni*. *Trop Geogr Med* 32:23–29, 1980.

Lindo, J.F., D.J. Conway, N.S. Atkins, A.E. Bianco, R.D. Robinson, D.A. Bundy. Prospective evaluation of enzyme-linked immunosorbent assay and immunoblot methods for the diagnosis of endemic *Strongyloides stercoralis* infection. *Am J Trop Med Hyg* 51:175–179, 1994.

Liu, L.X., P.F. Weller. Strongyloidiasis and other intestinal nematode infections. *Infect Dis Clin North Am* 7:655–682, 1993.

Marquardt, W.C., R.S. Demaree, Jr., R.B. Grieve, eds. *Parasitology and Vector Biology*, 2nd ed. San Diego: Academic Press; 2000.

Palau, L.A., G.A. Pankey. *Strongyloides* hyperinfection in a renal transplant recipient receiving cyclosporine: Possible *Strongyloides stercoralis* transmission by kidney transplant. *Am J Trop Med Hyg* 57:413–415, 1997.

Ramachandran, S., A.A. Gam, F.A. Neva. Molecular differences between several species of *Strongyloides* and comparison of selected isolates of *S. stercoralis* using a polymerase chain reaction-linked restriction fragment length polymorphism approach. *Am J Trop Med Hyg* 56:61–65, 1997.

Ramos, M.C., R.J. Pedro, L.J. Silva, M.L. Branchinni, F.L. Gonçales Jr. Estrongiloidiase maciça. A propósito de quatro casos. *Rev Inst Med Trop Sao Paulo* 26:218–221, 1984.

Wong, T.Y., C.C. Szeto, F.F. Lai, C.K. Mak, P.K. Li. Nephrotic syndrome in strongyloidiasis: Remission after eradication with anthelmintic agents. *Nephron* 79:333–336, 1998.

Woodring, J.H., H. Halfhill II, R. Berger, J.C. Reed, N. Moser. Clinical and imaging features of pulmonary strongyloidiasis. *South Med J* 89:10–19, 1996.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

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## THELAZIASIS

**ICD-10 B83.8**

**ICD-10 B83.8 Other specified helminthiasis**

*Thelazia callipaeda*

ĞÄəÄù ʤη gåzÊư ȷäÆĿå ɄĿş (rhodesisi ĞĮÊĿåşÄöä öÄŁÆŸΣäş Californiensis ĞĮφózÄĿöÄÒöä
ɄŁHȹQŸţä ÈĮÒöä Ž Ğ8öÄĞöä ÄŒäÆĿå ÄÎHȹÄk ɄøQöäş Û
ğäşÄŁŸΣä
ʤη ʔÄǹȷä ţäzφȷä ÆDZzǩ Ɓ ·ȷÄÊφqä ÆÄȝ ÄφÄĮgÜş ÜĞĿƎöäş ĞÄDZäÆöä ğÄĿĿÆǯöä ÆÄȝ ĞŁHȹQŸţäş
БÜ gşÄȞţä ĞĿÄÎĞöä ĞöÄΣä Ž Õì ȝȓzη ǴĮHȹÔöä 8äÄȞQèɼä ·ȷÄÊφqä Ž öÄŁÆŸΣä ÈÄDZ
·ÙÕz ĞĮÊĿåşÄöä öÄĮŁŸΣä

ÈĮÕĿş Ûƪƞ [17] БÜ ƪƞ [7] ʔǯφȷä ÈĮÕǩ ·ʔÄǹȷä āɎÒöä ɄŸĮÄù ɄĿ ĞĿåÄĞĮöÄÒöä öÄŁÆŸΣä
ğÄęÄĿ øÄHȹQǩş ÛɄŁHȹQŸţä ÈĮÒöä Ž ĞÄDZÜ ğäæ ÄȓzĮæ ʔǯφȷä ȝȒǩ ·ƪη [115 −7] ÄõØöä
ɃzǯõĞäÄäØö öÄŁÆŸΣä ţäzφÜ ǯÄQƠ ÄŁzƴÕŁÒǩ ʔøQgş ÛĞŁHȹQŸţä ʔŸȝ ȝȓzQǩş òşȷä øzÛöä
ĞĿşÄΣä ô zĮĞöä şÜ) ğÄęƘöä ȝŸQĞĿş ĞŁHȹQŸţä ğäàäÄzÜ Òη āÄäØöä ÿzÕĿ ǪĮg ·Ùèzɋη
·ĞĿÆȞţä ǪöÄǯöä øzÛöä ğÄęÄĿ ǴĞÔǩ ʔøQg ȝĮäÄèÜ gÆȝ gÄÎΣä Õǹäå ğÄęƘöä øzÛQQz (ÄŦĮŸȝ
åşÄȞĿ ÄƞÆÄȝ gÆĿÆDZ ĞŁHȹQŸη ɃÆȞǩş ĞäÄäØöä
ÿzùÄǹ БÜ ĞĿÆȞţä ğÄęƘöä ÄDZÄő
Ğ8öÄä БÜ ǪöÄǯöä øzÛöä ĞęÄĿ ǰȒÄǩ ·ȝĮäÄèÜ [6 −2] òɎǹş ÛĞĮŁHȹQŸţä ğäàäÄzqä Òη ɄŸĮÄÛöä
ʔÔęÜ Ž ·ÄÆĮDZ 8şÄȞη ƘƋ ĞĿåÄĞĮöÄÒöä öÄŁÆŸHȹŸö Ùèzɋţä Ƀzǯöä · ô zĮĞöä ȝȓzæ ÜÆĞǩş
äØŁ ȷÜ ÆÕQȞĿş *Phortina variegata* Ğäääæ Ž ɄŸĮÄÛöä ğÄęÄĿ gÆDZş ·ɄèşÄöä àÄÎöä
ĞĿşÄŁŸΣä ĞĮèzφÄÄöä Ğäääæ zŁ ĞĮφózÄĿöÄÒöä öÄŁÆŸHȹŸö Ùèzɋţä Ƀzǯöä ·ÒęÄÄöä ȷzÒĿ Æę ţzÄöä
.(1982) *benjamini* ɃşÄɘä ÆÕȞη ĞŸĮÔz ʤη zȒȝ ɄĿş *Fannia thelaziae*
öÄäÆΣä ĞäÄäØöä) *Musca* ĞäÄäØöä ʤη ĞÄŸQƯ ţäzφÜ zŁ ĞĮÊĿåşÄöä öÄŁÆŸHȹŸö Ùèzɋţä Ƀzǯöä
ĞÄĿøzţäş (*M. antumnalis* ĞĮÄĿÄƪä ĞäÄäØöä (*M Larvipara* ĞäÄäØöä (*Convexfrons*
.*Stomoxys calcitrans* ĞȒõÄţä ĞĦŁQöäş *Morellia*

Ž ĞĿƎöä ğÄĮĞŸÒöäş āɎÒöä Ž gåzDZzη ĞĿåÄĞĮöÄÒöä öÄŁÆŸΣä : ϙşÆΣäş ŽäÄ8ɘä ţäzQöä
ƘÔöä Ž ĞÄÄÎä ĞöÄg [20] ʤη ÄǯõÜ ʤȝ ηĮŸĞQöä Ź :1985 ÿÄȝ ʔøQgş ÛʔÔęȷä àÄÎöä
ÿÄȝ ʔøQgş ·ĘäÄÊöä ɄøQĮzzÊöä åÄƠɼä ʤη ĞĮęÄÎöä ĞĮgÄÄöäş ÆÄŸÄÄǩş ÆÄTäş ȷÄäÄĮöäş ÄÄøzõş
БÄƤqä åÆȞöä ÕȞDZ Äư ÛÄÄøzõ Ž [4] ÛƘÔöä Ž [1] ·ğɼÄg [9] ʤη ÄǯõÜ ʤȝ ηĮŸĞQöä Ź :2000
Ž [1] ÛåÆƮ ƘƋ ţzφ ʤη ÆÄTä Ž [1]ş Û *et al.*, 1995) ĞöÄg [24] ÆŸĞöä Õöæ Ž

[illegible] (*Lepus californicus*) [illegible] 10 [illegible] 1985 [illegible] 3 [illegible] 2000 [illegible]

[illegible] 1982) [illegible]

[illegible] *et al.,* 1998; . [illegible] *et al.,* 1996) [illegible]

[illegible]

[illegible]

Bhaibulaya, M., S. Prasertsilpa, S. Vajrasthira. *Thelazia callipaeda* (Raillet and Henry, 1910), in man and dog in Thailand. *Am J Trop Med Hyg* 19(3):476–479, 1970.

Cheung, W.K., H.J. Lu, C.H. Liang, M.L. Peng, H.H. Lee. Conjunctivitis caused by *Thelazia callipaeda* infestation in a woman. *J Formos Med Assoc* 97(6):425–427, 1998.

Doezie, A.M., R.W. Lucius, W. Aldeen, D.V. Hale, D.R. Smith, N. Mamalis. *Thelazia californiensis* conjunctival infestation. *Ophthalmic Surg Lasers* 27(8):716–719, 1996.

Hong, S.T., Y.K. Park, S.K. Lee, *et al.* Two human cases of *Thelazia callipaeda* infection in Korea. *Korean J Parasitol* 33(2):139–144, 1995.

Smith, T.A., M.I. Knudsen. Eye worms of the genus *Thelazia* in man, with a selected bibliography. *Calif Vect News* 17:85–94, 1970.

Weinmann, C.J. Thelaziasis. *In:* Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.


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## TRICHINOSIS

### ICD-10 B76 Trichinellosis

*Trichinella* ... *T. spiralis*

[illegible] 1 [illegible] 2 −1 [illegible] 1972 [illegible] 1835 [illegible]

[illegible] 1992 [illegible]

[illegible] et al., 1999) [illegible]

[illegible] *T. nelsoni* [illegible] *T. native* [illegible]

[illegible] 1997) *T.britovi* [illegible] *T. pseudospiralis* [illegible]

[illegible] °15 [illegible] 20 −10 [illegible]

[illegible] 40 [illegible]

[illegible] °15 − [illegible] 12 [illegible]

[illegible]

[illegible]

[illegible] *et al.,*1998)

[illegible]

ɍ ȸÒö ÛʔÀǹɉä ɭÆöĀęɉäş ȷäÆŸĞöä ȐĤä Ž ĞöşÂĤŋ ğɍĀģ ǨŸDzȅ ·ŸĀşÂøĀζş ɃäζɖøɉäşğĀĀĀĤÎöä öäắ ȸŋ ğĀÆÌĀζ ȜȒä ǨŸDzȅ ·ģắøζϘÊŋ şÜ ĞŸòÜ ğɍĀģ ǨφĀõ äæÜ ĀȶÆζ ȣÄĤĀ ȄÒȝ ·ƃäζϘöä ʔŸȝ ĞĀĀĀȅ ĞöĀģ 31ş 3ş 49 õĀĀȽ ȷĀõ ፡1976ş 1975ş 1974 Ž ·äÆĀõ Ž Ǩģşä ĀǨ ʔşÆĤŸö ĞĀζĀŋ ĞĞÊφ ʔÀǹÜ ā ĀĞȅÜ ȸŋ äζǨĀŋ î ĀÅÌÜ ÆDzģ ÒĤζ ƙÆŸòɉä ȷĀÒÊöä ƙä ʔşÆĤöä ·ĞÆφĀÛĀƎöä ÆĞŋζöζõ Ž −4 ɃÜ ζǨşøζǨ Ž ȸŋ ·ÙŎζ ģǨȣò ğĀȝζȶƒ ÆÆÔǨ şÜ ĞĀắäĀζ ĞĀĀĀÊöä ğɍĀΣä ȷÜ ɍÜ ÛäÆĀõ òĀƽ Ž ģĀǨäζϘŋ ·(ĞÊäĀÆöäş ĀĤĞöä Ž) ĞÆȓøɉäş ĞĀĀĤĞöä ĞĀƎöä ğĀÆĀÆǯöä ζȽ ĞöÛĀţä ŌŸǨ Ž ʔşÆĤöä øÆÒŋ Ɓş ·ĀĀäĀĀʅä Ž ĀÆŸĤζ ɄŸÆĀÛöä ÆDzζĀ ɍ ƙģ Ž ·ĞŸòǿä ĞĀĀĤÎöä ɄøĞĞÊöä ŌŋĀĤöä ȷĀõ ĀŋøşÆĞÊä ϘÆƠ ğɍĀΣä ȷÜ ɍÜ ·ĀĞĀÄŌǨ ĞĀȅ 20 øĀŋ ĀĀäĀĀʅä ȸȝ ĞŌǯĞĀţä ĞĀĀÎĞöä ğɍĀΣä ϘÆƠ ĀÔÅÌ 24 ζĀøĀϘφşÜ Ž 1993 ĞÆÌĀζ ǨäĀòÜ ·(ĀĀĤöä) ɃƎöä ĀĀÂøĀʅä õŸȚϘȅä ğäζĀȅ 10 òŸǹ ģÆĤϘţä ğĀɍζöä Ž ĞöĀģ 1428 ǨŸDzȅ ·(*et al.,* 1997) ȷĀõ ·(049) ĞǨĀŋϥä òÆĤŋş ğĀÆζş 7ş ĞöĀģ 143 ɃζĀȅ ÙȅζϘŋ 1981 ɃÜ 1972 ȸŋ 5 Ž (3) ȷĀõ 1981 Ž ǨϘÆģ ɄøϘöä ĞöĀģ 188 ƙä ȸȶζ ÛşĀÊϘŋ ƘȡȐ ôĀţä ţäζǨ 367 ş ŎÒõ ÆŸĞŸö 08 ζȽ ĞĞÊφ ȷζÆŸŋ ŎÒö òÆĤţä ȷĀõ ·ĀÒȅɍÜş ĞÆęĀÌ ĞÆöĀƽ ğĀɍş ·(1982) ĀÒȅɍɉ 339 ş ắşø ģĀĀÂƨ

ÙȅζϘţä ȷĀõ 1956 −1947 ƙä ģĀϘĀöä ɄĀζ ፡ĀȚĀŸö ǨĀŸŋ ôĀţä ģÆÌş ţζęζöä ȝDzäĀǨ 1988 −1984 ƙä ÙȅζϘţä ȷĀõ ƙģ Ž Û(23) ĞǨĀŋϥä òÆĤŋş ģĀζş 84 ȝŋ ĞĀȅ Ōõ ĞöĀģ 158 ÛɄÊĀøø ŎÒÎä ĀĀäĀĀʅä Ž ʔşÆĤöä ôĀĀŸä ȸȝ ɭDzĀφ ȝDzäĀϘöä ·ĞĀȅ Ōõ ÙŎζ ĞöĀģ 44 ζȽ ȸŋ öĀäş ȸȝ (1996) *ϹęĀζøş* ƙõøşắ ŋŸäÜ ·ÆĀäÂǨ Ž ÆÆÔöä ğĀφäζƮģ ȸŋ ʔşÆĤöä ĞÆƵÜ ȸÒö *ĞĀĀĤÎöä* ʔÆĤĀţä (6) ɄÒĀĀŋɉä Æȅɉä) ĀDzζÒöä ɭΣ ȸȝ ɭDzĀφ ζȽäÆĀä Ž ĞöĀģ 15 ğɍÆĤţä ȷÜ ɭɖø ÛģÆĤϘţä ğĀɍζöä Ž ĀĀäĀĀʅä Ž ģắζDzζŋ ʔşÆĤöä Ǩöäà Āŋ ·*ĞŸòǿä* āζĀDz ȸŋ ĀĀDzɍ 90 ÆÆòÜ ·öɄøĀöä ĀĀÂøĀʅä ŌõĀ Ƀøöä ȷĀÊφϥä ÆÆÔǨ Æęş ÛĞȒĀÅĀŋ Ź ĀĀÂøĀǹ ɭΣ ȸŋ ğÆȝÜ ĞĀφ ȨφĀÔφ ɭŸõÜ ĞDzÆϘφ 1990 ӯĀȝ äζĀÜ Ž ʔşÆĤöĀä ÆȅÜ ȧĀÌ ÛĀȒĀÜ ʔşÆĤŸö ɄÖÆÖΣä øĀÎϘφɍä ȝDzäĀǨ ĀȶÕ ·(*et al.,* 1992) ȷĀƯ ȸŋ ȻÚäĀÌ Ž ÛĀÆĤĀŋ ȷĀõ ģĀȚȶƨä ȸŋ (12) ȷÜ øÆę 1941ş 1936 ƙä ·Ǭǯƨä ǴϘĀä Ōöæ ǨĞϘÜ Æęş

јÅÒÊöä ȡƞ ⁷³ :1940 ӯÅȝ Ž ·²² ɀĿ 1970 ӯÅȝ ʔşÆĦŸö øÆÕţä òÆĦţä јÅõ ƙǵ
ӯÅȝ Ž ƙǵ Ž ÛĦĠÊφ ĞĵÅÆǵ ʔşÆĦä Ʉǵɀ Åư – ƚƬĠDzǵ Ž Ğǵ ğÅÅÄĦì ƚƬÅÆö јÅõ
1953ş 1939 ƙä ǨÅÄDZÜ ğÅèäøá ǨÅÎǫõä :ÕĿÊÒţä Ž ·⁰⁷ òÆĦţä јÅõ 1970
1973 –1972 Ž ǨÅÄDZÜ Ğèäøá ğÆDZş ÅŧÆä ·Ğǵɀ0Åţä Ǭĵƨä ȡƞ ¹⁵ БÜ ⁴ Ž ğÅÅÄĦÎöä
:Õõ ʔŸȝ ·ÆŸĠöä Ž ÜÕɀ ğɍÅǵ ³ ǨÔÅì :1975 ӯÅȝ Ž ·ÈǝÅÛÅöä ȡƞ ⁴² Ž ğÅęƘöä
et al.,) 1983ş1978 ƙä ĞĿöÅƤÜ ĞöÅǵ 108 ȝƞ âÅÒĿǨÅõäà Ž ĞĿìÅɀ 17 õÅÅĿ јÅõ
.(1984

јäÆŸĠöä ÅƵş ÜɄŸĿÎǩş ƙ0ÅDZøɉä Ž ƁáäÅɀ ŌÒÎä ğÅÅÄĦÎöä öäá Ž ğÅĿìÅɀ ǫÆƠ
Ž ·ĞƞÅĦöä ĞĦɄÔöä ÅƮφ ĞƬDZş ȡƞ ÅŧƬƞ ôÅţä ÅƬĿɀ јɀÒÅ ƁØöä ĞĿäɀÅƨä ÅÒÅÅƞÜ Ž јäÆĿǵɀöä
1982 ӯÅȝ Ž ·ɄŸĿÎǩ Ž 05ş ƙ0ÅDZøɉä Ž 100000 ŌÒö 01 òÆĦţä јÅõ :1976 ӯÅȝ
Ž ʔÅǹÜ ƵÅȝ ŌǝÅèş şÜ ǫáäɀǵ ĞDZä0φ äɀǨÅƞ ȡÅÓöä îÅÁìɉä Ǭĵ DZ Ž ²⁸ òÆĦƞ ÆDZş
Ž ǨÅÄDZÜ ğÅèäøá Ž ǨŸDZè ɄøǫÜ ÕŸǫö ĞöÅÎƞ ĞÅɀÅţä ĞĠÊÅöä ·ɄŸĿÎǩ Ž ɀƍÅĿ0φÅè
dzäÂøφäş Û1982 ӯÅȝ ĞÊŸÒ0ƞ ğÅęƘöä Õõ ǨφÅõ :Õõ ʔŸȝ ·1972ş 1967 – 1966
ʔşÆĦöä Ž ÒęÅǨ ȼφÜ ʔŸȝ ÅÊÅŀ Æę ƁØöäş ÛƎõɉä ĞÅÅŧĦöä ğÅȝɀŧÒä ʔŸȝ øÅÎ0φɍä
ÈφɀĿä āɀÅDZ Ž ĦÔÅì 18 ƙ0ÅDZøɉä Ž 1991 ӯÅȝ ǫÆǵ ƁØöä öÅäɀöä āÅòÜ ·ģÆÅÆƨä
36 ɄŸĿÎǩ Ž 1992 ӯÅȝ ǫÆǵ ƁØöä öÅäɀöä āÅòÜş ·V et al., 1993) ÈÅÅÜ
.Ɓn et al.,1994) ÆŸĠöä Õöæ ȡƞ ɄøäɀÅƨä öÂƨä Ž ĦÔÅì

ȡƞ ÅĵõÜ ǫÆǵ ǬĿǵ ÛäÆÅöɀä Ž :òÅĵţä ÕĿĠè ʔŸĦɀ ÛĦȒÅÜ ÅşøşÜ Ž ôÅţä òÆĦƞ ȝDZäÅǨ
ğÅĿìÅɀ БÜ ȡȝ ƞÆŸĠ0öä ƚ0Å Ɓş ÛûɀĦɄŸƞ ŌÒÎä ţɀęɀöä ÒęÅǨ ÛĦÕäÅè ӯÅȝ Õõ ĞöÅǵ 500
ĞÕÛÅţä ğÆDZş :ĘäÅÊöä Ʉø0ĿɀɀÊöä áÅƠɍä Ž ·ȡÅÅÎĦöä јÅÕöä ȡƞ ģƘǹɉä ğäɀÅÊöä Ž ģƘĠõ
ğɍÅƩä ǨŸDZè · ğɍÅƩä ȡƞ ⁹⁰ ǫÆǵ Ǭĵǵ âşøŸĿä Ž ʔŸȝɉä øÅÎ0φɍä ȝƞ ĞφɀùɀŢä
ƚƩ õŸƬ0èä ĞDZä0φ ĘäÅÊöä Ʉø0ĿɀɀÊöä áÅƠɍä ȡƞ ÅƬÅƽş ÅĿèä Üèş ƚĿöÅęÜ Ž ĞÅáäÄÅöä
ƚƩ äɀŸõÜ ĦÔÅì 89 ǨäÅòÜş Û1975 ӯÅȝ ÅĿφÅÛÅä Ž Ǩ0Æǵ ĞĿìÅɀ ǨÅÅȝ ·ĞÅƎöä ğÅφäɀĿƩä
ÅÊφÅɀ Ž ĞĿìÅɀ Ǩ0Æǵ ·ĞφɀÊŸÅöä ĞφÅĦÎöä БÜ ǨÅÅȝ ÛĞĿęÅÎöä ÅäşøşÜ ȡƞ áøɀ0Êƞ јÅÔǵ
ȝƞ ÅÊφÅÅä ÈÅøÅä Ž ğÅÅÄĦÎöä öäá ȡƞ ĞĿìÅɀ ĦÅǹúƞ ǨÅÎǫõä ·B et al,1978)

[illegible] 250 [illegible] 1993 [illegible] et al., 1985) [illegible] et al., 1994) [illegible] 554 [illegible] 8 –5 [illegible] 1997) [illegible]

[illegible] 1962 [illegible] 58 [illegible] 975 [illegible] 1973 [illegible] 1974 [illegible] 15 [illegible] 1991 [illegible] 1974 [illegible] 1981 [illegible] 60 [illegible] 1980 [illegible] 12 [illegible] 1991) [illegible] 1000 [illegible] 1982 [illegible] et al., 1997) 1995 [illegible] 44 [illegible] 54 [illegible] et al., 1997) 1996 –1995 [illegible] 291 [illegible]

[illegible] 1959 [illegible] (potamochoerus porcus) [illegible]

[illegible] (*Phacochoerus aethiopicus*)

[illegible] 1964 [illegible] 1964 [illegible] 1994 [illegible] 1995 – 1994 [illegible] *et al.,* 1995)

[illegible] *et al.,*1998) [illegible] 59 [illegible]

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[illegible] *et al.,* 1974) [illegible] 1955 [illegible] 36 [illegible] 30 [illegible] *et al.,*) [illegible] 30 [illegible] 150 [illegible] (1979 [illegible] 600 [illegible] 12 [illegible] 7 [illegible] 300 [illegible] 50 [illegible] 120 [illegible]

[illegible] 8037 [illegible] (1268 [illegible] (1952 [illegible] (1951 [illegible]

[illegible] (1979 [illegible] 1967, 1951 [illegible] *Rattus norvegicus* [illegible]

[illegible] 1983 [illegible] 307 [illegible] 60 [illegible] Vulpes) [illegible] (vulpes [illegible] (Lynx) [illegible] (Canis lupus) [illegible] (Meles meles) [illegible] (Sus scrofa) [illegible] (Thalarctos maritimus) [illegible] (odobenus rosmarus) [illegible] 64 [illegible] et al., 1980) [illegible] sigmodon hispidus [illegible] et) [illegible] .(al., 1989

[illegible] (Felis serval) [illegible] 23 [illegible] 10 [illegible] (Crocuta crocuta [illegible] Hyaena hyaena) [illegible] C. crocuta [illegible]

[illegible] 301 [illegible] 2063 [illegible] 1762 [illegible] 20 [illegible] *Graomis*) [illegible] (*Chaetophractus Villosus*) [illegible] (*pseudalopex gracilis*) [illegible] (*griseoflavus*

[illegible] 100 – 10 [illegible] 10 [illegible] 43 [illegible] 11 – 7 [illegible] 10 [illegible] (1993) [illegible]

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[illegible] 3 − 1 [illegible]

[illegible] 947 [illegible]

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... $^{15}$ ... $^{6}$ ... $^{\circ}30$ ... $^{20}$ ... $^{\circ}15$ – ...

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... $^{\circ}12$ – ...

... (*potamochoerus oorcus*) ...

... $^{33}$ ... $^{300}$ ... (1947 ...) ...

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... *et al.,* 1983) ...

[illegible] 58 [illegible] (1991) [illegible] 87 (1981

[illegible]

[illegible] (1997) [illegible] et al., 1995) [illegible] et al., 1992) [illegible] (1997) [illegible] 100 [illegible]

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et al., 1992)

et al.,)

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[illegible] 1967 [illegible] 1961 [illegible] 3 [illegible] 10 [illegible] 100 –50 [illegible] 25 –20 [illegible] 100 –50 [illegible] (1998) [illegible] 116 [illegible] et al., 1984) [illegible] 100 [illegible] 88 [illegible] 100 [illegible] et al., 1999) [illegible]

[illegible] (°100) [illegible]

[illegible]

# ŨøШɛþøǅɪɛ


Andrews, J.R., C. Bandi, E. Pozio, M.A. Gómez Morales, R. Ainsworth, D. Abernethy. Identification of *Trichinella pseudospiralis* from a human case using random amplified polymorphic DNA. *Am J Trop Med Hyg* 53(2):185–188, 1995.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Bellani, L., A. Mantovani, S. Pampilione. Observations on an outbreak of human trichinellosis in Northern Italy. *In*: Kim, C.W., Z.S. Pawlowski, eds. *Trichinellosis. Proceedings of the Fourth International Conference on Trichinellosis, August 26–28, 1976, Poznan, Poland*. Hanover, New Hampshire: University Press of New England; 1978.

Ben, G.J., S.L. Malmassari, G.G. Núñez, S.N. Costantino, S.M. Venturiello. Evaluation of an enzymatic immunohistochemical technique in human trichinellosis. *J Helminthol* 71:299–303, 1997.

Bessonov, A.S. [The taxonomic position of nematodes in the genus *Trichinella* Railliet, 1895]. *Med Parazitol (Mosk)* Jan–Mar(1):3–6, 1998.

Campbell, W.C. Epidemiology. I. Modes of transmission. *In*: Campbell, W.C., ed. *Trichinella and Trichinosis*. New York: Plenum Press; 1983.

Cui, J., Z.Q. Wang, F. Wu, X.X. Jin. Epidemiological and clinical studies on an outbreak of trichinosis in central China. *Ann Trop Med Parasitol* 91(5):481–488, 1997.

Dupouy-Camet, J., C. Soule, T. Ancelle. Recent news on trichinellosis: Another outbreak due to horsemeat consumption in France in 1993. *Parasite* 1(2):99–103, 1994.

Dworkin, M.S., H.R. Gamble, D.S. Zarlenga, P.O. Tennican. Outbreak of trichinellosis associated with eating cougar jerky. *J Infect Dis* 174(3):663–666, 1996.

Dzbenski, T.H., E. Bitkowska, W. Plonka. Detection of a circulating parasitic antigen in acute infections with *Trichinella spiralis*: Diagnostic significance of findings. *Zentralbl Bakteriol* 281(4):519–525, 1994.

Ferraccioli, G.F., M. Mercadanti, F. Salaffi, F. Bruschi, M. Melissari, E. Pozio. Prospective rheumatological study of muscle and joint symptoms during *Trichinella nelsoni* infection. *Q J Med* 69(260):973–984, 1988.

Fragoso, R., P. Tavizón, H. Villacaña. Universidad Autónoma de Zacatecas, 1984. (Personal communication).

Gamble, H.R., C.E. Graham. Monoclonal antibody-purified antigen for immunodiagnosis of trichinosis. *Am J Vet Res* 45(1):67–74, 1984.

Gamble, H.R., R.C. Brady, L.L. Bulaga, *et al*. Prevalence and risk association for *Trichinella* infection in domestic pigs in the northeastern United States. *Vet Parasitol* 82(1):59–69, 1999.

Gottstein, B., E. Pozio, B. Connolly, H.R. Gamble, J. Eckert, H.P. Jakob. Epidemiological investigation of trichinellosis in Switzerland. *Vet Parasitol* 72(2):201–207, 1997.

Greenbloom, S.L., P. Martin-Smith, S. Isaacs, *et al*. Outbreak of trichinosis in Ontario secondary to the ingestion of wild boar meat. *Can J Public Health* 88:52–56, 1997.

Haim, M., M. Efrat, M. Wilson, P.M. Schantz, D. Cohen, J. Shemer. An outbreak of *Trichinella spiralis* infection in southern Lebanon. *Epidemiol Infect* 119(3):357–362, 1997.

Holliman, R.B., B.J. Meade. Native trichinosis in wild rodents in Henrico County, Virginia. *J Wildl Dis* 16(2):205–207, 1980.

Homan, W.L., A.C. Derksen, F. van Knapen. Identification of diagnostic antigens from *Trichinella spiralis*. *Parasitol Res* 78(2):112–119, 1992.

Jongwutiwes, S., N. Chantachum, P. Kraivichian, *et al*. First outbreak of human trichinellosis caused by *Trichinella pseudospiralis*. *Clin Infect Dis* 26(1):111–115, 1998.

Ko, R.C. A brief update on the diagnosis of trichinellosis. *Southeast Asian J Trop Med Public Health* 28 Suppl 1:91–98, 1997.

Letonja, T., S. Ernst. Triquinosis en perros de Santiago, Chile. *Bol Chil Parasitol* 29(1–2):51, 1974.

Mahannop, P., P. Setasuban, N. Morakote, P. Tapchaisri, W. Chaicumpa. Immunodiagnosis of human trichinellosis and identification of specific antigen for *Trichinella spiralis*. *Int J Parasitol* 25(1):87–94, 1995.

Margolis, H.S., J.P. Middaugh, R.D. Burgess. Arctic trichinosis: Two Alaskan outbreaks from walrus meat. *J Infect Dis* 139(1):102–105, 1979.

McAuley, J.B., M.K. Michelson, A.W. Hightower, S. Engeran, L.A. Wintermeyer, P.M. Schantz. A trichinosis outbreak among Southeast Asian refugees. *Am J Epidemiol* 135(12):1404–1410, 1992.

Minchella, D.J., B.A. Branstetter, K.R. Kazacos. Molecular characterization of sylvatic isolates of *Trichinella spiralis*. *J Parasitol* 75(3):388–392, 1989.

Oberg, C., S. Ernst, P. Linfati, P. Martin. Triquinosis en perros de la comuna de Máfil, Provincia de Valdivia, Chile. *Bol Chil Parasit* 34(1–2):46–47, 1979.

Pozio, E., G. La Rosa, K.D. Murrell, J.R. Lichtenfels. Taxonomic revision of the genus *Trichinella*. *J Parasitol* 78(4):654–659, 1992.

Pozio, E., P. Varese, M.A. Morales, G.P. Croppo, D. Pelliccia, F. Bruschi. Comparison of human trichinellosis caused by *Trichinella spiralis* and by *Trichinella britovi*. *Am J Trop Med Hyg* 48(4):568–575, 1993.

Pozio, E., I. Miller, T. Jarvis, C.M. Kapel, G. La Rosa. Distribution of sylvatic species of *Trichinella* in Estonia according to climate zones. *J Parasitol* 84(1):193–195, 1998.

Pozio, E., C.M. Kapel, H.R. Gamble. Specificity and sensitivity of random amplified polymorphic DNA analysis for the identification of single larvae of *Trichinella* after experimental infection of pigs. *Parasitol Res* 85(6):504–506, 1999.

Ruitenberg, E.J., F. van Knapen, A. Elgersma. Incidence and control of *Trichinella spiralis* throughout the world. *Food Technology* 37:98–100, 1983.

Sandoval, L., P. Salinas, E. Rugiero, M.C. Contreras. Valor diagnóstico de la ELISA IgG para triquinosis, usando antígeno de Melcher. *Bol Chil Parasitol* 50(3–4):92–96, 1995.

Schantz, P.M. Trichinosis in the United States, 1947–1981. *Food Technology* 37:83–86, 1983.

Steele, J.H. Trichinosis. *In*: Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Steele, J.H., P. Arámbulo III. Trichinosis. A world problem with extensive sylvatic reservoirs. *Int J Zoonoses* 2(2):55–75, 1975.

United States of America, Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). Trichinosis surveillance annual summary 1981. *MMWR Morb Mortal Wkly Rep CDC Surveill Summ*, 1982.

van Knapen, F., J.H. Franchimont, A.R. Verdonk, J. Stumpf, K. Undeutsch. Detection of specific immunoglobulins (IgG, IgM, IgA, IgE) and total IgE levels in human trichinosis by means of the enzyme-linked immunosorbent assay (ELISA). *Am J Trop Med Hyg* 31(5):973–976, 1982.

Venturiello, S.M., R.A. Caminoa, R. Veneroni, *et al.* Aspectos serológicos, clínicos y epidemiológicos de un brote de triquinosis en Azul, Provincia de Buenos Aires. *Medicina (B Aires)* 53(1):1–5, 1993.

Venturiello, S.M., G.J. Ben, S.N. Costantino, *et al.* Diagnosis of porcine trichinellosis: Parasitological and immunoserological tests in pigs from endemic areas of Argentina. *Vet Parasitol* 74(2–4):215–228, 1998.

Wu, Z., I. Nagano, E. Pozio, Y. Takahashi. Polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) for the identification of *Trichinella* isolates. *Parasitology* 118 (Pt 2):211–218, 1999.

Yamaguchi, T. Present status of trichinellosis in Japan. *Southeast Asian J Trop Med Public Health* 22 Suppl:295–301, 1991.

Zamorano, C.G., M.C. Contreras, A. Espinoza, *et al.* Brote de triquinosis en la Comuna de Purranque, Región X, Chile, octubre-noviembre, 1992. *Bol Chil Parasitol* 49(1–2):38–42, 1994.

Zimmermann, W.J., D.E. Zinter. Trichiniasis in the US population, 1966–1970. Prevalence and epidemiologic factors. *Health Serv Rep* 88:606–623, 1971.

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## TRICHOSTRONGYLIASIS [illegible]

**ICD–10 B81.2**

.(Trichostrongylosis، trichostrongylidosis) [illegible]

[illegible] *Trichostrongylus* [illegible] *T. orientalis* [illegible] *T. colubriformis* [illegible] *T. probolurus* [illegible] *T. vitrinus* [illegible] *T .brevis* [illegible] *T. capricola* [illegible] *T.calcaratus* [illegible] *T .affinis* [illegible] .*T. skrjabini* [illegible] *T. axei* [illegible] *Haemonchus contortus* [illegible]

[illegible] *Osteragia osterttagi* [illegible] *O. circumcincta* [illegible] [1] [illegible]

[illegible] %7.5 [illegible] 275 [illegible] %2.50 [illegible] %85 – %69 [illegible] %1 [illegible] 1993 [illegible] (Magambo *et al.*, 1996) [illegible] 19 [illegible] 99 [illegible] 52.552 [illegible] (Birrie *et al.*, 1994) [illegible] %0.3 [illegible] %0.1 [illegible] 46.000 [illegible] 5 [illegible] (lee *et al.*, 1994) [illegible] (Boreham *et al.*, 1995) [illegible]

[illegible]

[illegible] %25 [illegible] 75 [illegible] 46.951 [illegible] 3.712 [illegible] 17 [illegible] 1967 – 1938 [illegible] 45 [illegible] 1971 – 1966 [illegible].

[illegible]

[illegible] (Barriga, 1997) [illegible].

[illegible] (Hoste *et al.*, 1995) [illegible].

[illegible]

(Boreham *et al.*, 1995)

45 – 36 … 75 – 56)

(… 50 – 40 … 95 – 73 …

[illegible]

## [illegible]


Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Birrie, H., B. Erko, S. Tedla. Intestinal helminthic infections in the southern Rift Valley of Ethiopia with special reference to schistosomiasis. *East Afr Med J* 71(7):447–452, 1994.

Boreham, R.E., M.J. McCowan, A.E. Ryan, A.M. Allworth, J.M. Robson. Human trichostrongyliasis in Queensland. *Pathology* 27(2):182–185, 1995.

Ghadirian, E., F. Arfaa. First report of human infection with *Haemonchus contortus*, *Ostertagia ostergagi*, and *Marshallagia marshalli* (Family Trichostrongylidae) in Iran. *J Parasitol* 59(6):1144–1145, 1973.

Ghadirian, E., F. Arfaa, A. Sadighian. Human infection with *Trichostrongylus capricola* in Iran. *Am J Trop Med Hyg* 23(5):1002–1003, 1974.

Hoste, H., J.L. Nano, S. Mallet, F. Huby, S. Fournel, P. Rampal. Stimulation of HT29-D4 cell growth by excretory/secretory products of the parasite nematode *Trichostrongylus colubriformis*. *Epithelial Cell Biol* 4(2):87–92, 1995.

Lee, S.K., B.M. Shin, N.S. Chung, J.Y. Chai, S.H. Lee. [Second report on intestinal parasites among the patients of Seoul Paik Hospital (1984–1992)]. *Korean J Parasitol* 32(1):27–33, 1994.

Magambo, J.K., E. Zeyhle, T.M. Wachira. Prevalence of intestinal parasites among children in southern Sudan. *East Afr Med J* 75(5):288–290, 1998.

Tongston, M.S., S.L. Eduardo. Trichostrongylidiosis. *In*: Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

# [illegible]
# TRICHURIASIS OF ANIMAL ORIGIN

**ICD- 10 B79 Trichuriasis** [illegible] **ICD-10 B79**

.(Trichocephalosis, Trichocephaliasis) [illegible]

[illegible] *Trichuris Vulpis* [illegible] T. trichuris [illegible] *T. suis* [illegible] .Lemur [illegible] *Trichocephalus* [illegible] Trichocephalus [illegible] *Trichocephalus* [illegible]

[illegible] 52 [illegible] 7.5 – 4.5 [illegible] 11 – 8 [illegible] .(Whipworm [illegible]) [illegible] 90 – 72 [illegible] .[illegible] 40 – 32

[illegible] 203 – 2 [illegible] 50 – 30 [illegible] .[illegible] 25 – 21 – [illegible] 56 – 50

[illegible]

.(Borriga, 1997)

.(Barriga, 1982)

14 – 10 (Crypts)

45 – 41

90 – 70

16

3 – 1

5 – 4

suun

*Toxascaris leonina*

%40 %20 – %10

2.737 %28

[illegible] %52 [illegible] %31 [illegible] 34) [illegible] 40 [illegible] (1982) [illegible] 1956 [illegible] 8 [illegible] 2000 [illegible] 1980 [illegible] (Kenney and Yermakov, 1980) [illegible] Mirdha *et al.*,) [illegible] (Singh *et al.*, 1993) [illegible] 1.710 [illegible] 1980 [illegible] 3 [illegible] (1998 [illegible] 276 [illegible] 34 [illegible] 83 [illegible] (1993) [illegible] 0.6 [illegible] %12.3 – %0.2 [illegible]

[illegible] %5 – %2 [illegible]

[illegible] 1940 – 1938 [illegible] %40 – %15 [illegible] (Borriga, 1982) [illegible] 84 – 11 [illegible]

[illegible]

[illegible] $^{5-2}$ [illegible]

[illegible] geohelminthiases [illegible] °22 [illegible] °24 [illegible] °24 [illegible] °6 [illegible] 54 [illegible] 210 [illegible]

[illegible] %16 [illegible] %1 [illegible] *Toxocara canis* [illegible] %20 – %10 [illegible] (Tost *et al.*, 1998) [illegible] %4 [illegible] %8 [illegible] (Umeche, 1989).

[illegible]

[illegible]

Barriga, O.O. Trichuriasis. *In*: Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Kenney, M., V. Yermakov. Infection of man with *Trichuris vulpis*, the whipworm of dogs. *Am J Trop Med Hyg* 29(6):1205–1208, 1980.

Mirdha, B.R., Y.G. Singh, J.C. Samantray, B. Mishra. *Trichuris vulpis* infection in slum children. *Indian J Gastroenterol* 17(4):154, 1998.

Singh, S., J.C. Samantaray, N. Singh, G.B. Das, I.C. Verma. *Trichuris vulpis* infection in an Indian tribal population. *J Parasitol* 79(3):457–458, 1993.

Tost, F., A. Hellmann, G. Ockert. *Toxocara canis*-Infektion. Umweltparasitologische und epidemiologische Untersuchungen. *Ophthalmologe* 95(7):486–489, 1998.

Umeche, N. Helminth ova in soil from children's playgrounds in Calabar, Nigeria. *Centr Afr J Med* 35(7):432–434, 1989.

World Health Organization (WHO). *Intestinal Protozoan and Helminthic Infections. Report of a WHO Scientific Group*. Geneva: WHO; 1981. (Technical Report Series 666).

# VISCERAL LARVA MIGRANS AND TOXOCARIASIS

## ICD–10 B83.0
## ICD-10 B83.0 Visceral larva migrans

.Larval granulomatosis

*Gnothostoma* *Gongynolema* *Logochila-* *Dirofilaria* *Angiostrongylus* *Baylisascaris* .*scaris* *Toxocara* (*T. mystax*) *cati* *canis*

$10-4$ $18-9$ zygote %90 °24 10 °19 15 .(Arango 1972, Maung 1978) $5-4$

[illegible]
[illegible]
Lifespam [illegible] 5 – 4 [illegible]
[illegible] 6 [illegible] 4 [illegible]
.(Schantz *et al.*, 1983) [illegible]

[illegible] 5 [illegible]
[illegible] Hypobiosis [illegible]
[illegible] 3 [illegible]
[illegible]
.(Barriga, 1997) [illegible]
[illegible]
.(Carrillo and Barriga, 1987) [illegible]
[illegible]
[illegible]
[illegible] 10.000 [illegible] (1978) [illegible]
[illegible]
[illegible] 100 [illegible] 6 [illegible] 3 [illegible] 1.000
[illegible] .(Barriga, 1998) [illegible]
[illegible] 42 [illegible]
[illegible]

[illegible] 21 [illegible]
[illegible]
[illegible]
[illegible] 25 [illegible]
[illegible] 1/2 [illegible] 3/1 [illegible] 3

.(Barriga, 1991) [illegible] 5 [illegible] *T. cati* [illegible] Prenetal [illegible] (1998) [illegible] Transmammary [illegible] 4 [illegible]

[illegible] (1988) [illegible] %40 [illegible] %99.4 [illegible] 6 [illegible] %5 [illegible] %20 [illegible] 6 [illegible] %6.7 [illegible] 1.321 [illegible] %3.6 [illegible] 358 [illegible] %4.7 [illegible] 1.150 [illegible] 675 [illegible] 48 [illegible] 1981 [illegible] 780 [illegible] 1.900 [illegible] (1979) [illegible] 4 [illegible] %56 [illegible]

(1988)

covert.

%50

%56 (1979)

%18 3

(%69) (%72) (%79)

(%63) (%71)

(%60)

Recur ... (1995) ... 4 ... (%90 ... %35) ... 160 ... 14.5 ... 1.000 ... 64 ... 20 ...

.macula ritinae ... endophthalmias ... enucleation ... retinoblastomas ... E ... Obwaller et) ... III ... I ... (al., 1998

... (Barra et al., 1996) ... irritability ...

[illegible] 233 [illegible] 15 [illegible]

[illegible] .(Nathwani *et al.*, 1992) [illegible]

[illegible] kitten [illegible] 3 – 2 [illegible]

[illegible]

[illegible]

[illegible] (1994) [illegible]

[illegible] 10.000 [illegible] 136 [illegible] .(Barriga, 1988) [illegible] 1.4 [illegible]

[illegible] 10 [illegible] .(Overgaauw, 1997) [illegible] 1986 [illegible] %25 [illegible] %2 [illegible] 144 [illegible] %68 [illegible] (1993) [illegible] .(Barriga, 1988) [illegible] Parks [illegible] %87.5 [illegible] .(Bratt and tikaingh, 1992) [illegible] 7 [illegible]

[illegible] 669 [illegible] 5 [illegible] .(Barriga, 1988) [illegible] %99.3 [illegible]

[illegible]

[illegible] geophagy [illegible]

[illegible] 4 [illegible] 100 [illegible]

[illegible] retinoblastoma [illegible] %92 [illegible] %78 [illegible] Schantz and Glickman,) [illegible] %95 [illegible] %73 [illegible]

(1983 %28 inactive 10 %10 28 %68 %25 7 (Gillespie *et al.*, 1993)

(Barriga, 1991) ascarids (Barriga, 1991) 8 6 4

%30 – %5 10 – 8 50 40 0.3 Fenbendazole (Barriga, 1997) 14

(Barriga, 1991) %50

ȻäåÄæ ÙÕǪŸÂ յŬ ¢ŧŸȝş ȸèǿ ȝŋ ¢ǤŸõ ȝŋ ʔÎŧǪÂ յŬ ÕöÄŧŸö ȸÒƩ ·sandboxes òÅÄüɟä ʑȚŸö ÈŧÖ ·òÂøÄţä Ž ŏÄȝş Ž ¢Äŋ ÒŸÁǪÂ şŬ ääƎöä äØŁ àÄȜ յŬ ¢ŧŸȝ Ż ÛɄÒŧǪèŸæ ÈŧÒæ ǦƨÄĦŋ Ǧŋ şÄÖŋ ȝŧÛǪÊǩ *ǦǤŸÒöä ǦŧŧȚÊöä* ôʑŧæ յɟ ǼʑÄõ ôÄǵÄţä Ōǹäå ¢Ȟʑåş ääƎöä ŌÊȡ ÛğÄŧŧȚÊöä ŏäå òÄÖǪþä àÄü òʑǵ ǦŋÅĦöä ƵŧÕǯǩ ʑŁ ǦŧƵŬ ÄǯõɟäŏäÄǄȡä ǼǨǹŬ ·ğŸȒÄöä ·Ōõɟä ŌǤę ǦÄŧÄöä ǦŧĦüɟäş ȸÂÆŧöä ŌÊȡ ǦŧƵŬş

## ÙøɰƐþøǅǁƐ


Araujo, P. Observações pertinentes as primeiras ecdises de larvas de *Ascaris lumbricoides*, *A. suum* e *Toxocara canis*. *Rev Inst Med Trop Sao Paulo* 14(2):83–90, 1972.

Barra, L.A., W.F. dos Santos, P.P. Chieffi, *et al.* Larva migrans visceral: forma mista de apresentação em adulto. Aspectos clínicos e laboratoriais. *Rev Soc Bras Med Trop* 29(4):373–376, 1996.

Barriga, O.O. A critical look at the importance, prevalence, and control of toxocariasis, and the possibilities of immunological control. *Vet Parasitol* 29(2–3):195–234, 1988.

Barriga, O.O. Rational control of canine toxocariasis by the veterinary practitioner. *J Am Vet Med Assoc* 198(2):216–221, 1991.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Barriga, O.O. La inmunobiología de las larvas migratorias de nematodos (con énfasis en *Toxocara* spp.). *Parasitol al Día* 22(número especial):44–54, 1998.

Bratt, D.E., E.S. Tikasingh. Visceral larva migrans in seven members of one family in Trinidad. *Trop Geogr Med* 44(1–2):109–112, 1992.

Carrillo, M., O.O. Barriga. Anthelmintic effect of levamisole hydrochloride or ivermectin on tissue toxocariasis of mice. *Am J Vet Res* 48(2):281–283, 1987.

Dubey, J.P. Patent *Toxocara canis* infection in ascarid-naive dogs. *J Parasitol* 64(6):1021–1023, 1978.

Ehrhard, T., S. Kernbaum. *Toxocara canis* et toxocarose humaine. *Bull Inst Pasteur* 77:225–227, 1979.

Eberhard, M.L., E. Alfano. Adult *Toxocara cati* infections in U.S. children: Report of four cases. *Am J Trop Med Hyg* 59(3):404–406, 1998.

Gillespie, S.H., D. Bidwell, A. Voller, B.D. Robertson, R.M. Maizels. Diagnosis of human toxocariasis by antigen capture enzyme linked immunosorbent assay. *J Clin Pathol* 46(6):551–554, 1993.

Kayes, S.G. Human toxocariasis and the visceral larva migrans syndrome: Correlative immunopathology. *Chem Immunol* 66:99–124, 1997.

Maung, M. The ocurrence of the second moult of *Ascaris lumbricoides* and *Ascaris suum*. *Int J Parasitol* 8(5):371–378, 1978.

Nathwani, D., R.B. Laing, P.F. Currie. Covert toxocariasis—a cause of recurrent abdominal pain in childhood. *Br J Clin Pract* 46(4):271, 1992.

Obwaller, A., E. Jensen-Jarolim, H. Auer, A. Huber, D. Kraft, H. Aspock. *Toxocara* infestations in humans: Symptomatic course of toxocarosis correlates significantly with levels of IgE/anti-IgE immune complexes. *Parasite Immunol* 20(7):311–317, 1998.

Overgaauw, P.A. Aspects of *Toxocara* epidemiology: Human toxocarosis. *Crit Rev Microbiol* 23(3):215–231, 1997.

Petithory, J.C., A. Beddok, M. Quedoc. Zoonoses d'origine ascaridienne: les syndromes de Larva migrans visceral. *Bull Acad Natl Med* 178(4):635–645, 1994.

Rugiero, E., M.E. Cabrera, G. Ducach, I. Noemi, A. Viovy. Toxocariasis sistémica en el paciente adulto. *Rev Med Chil* 123(5):612–616, 1995.

Schantz, P.M., L.T. Glickman. Ascáridos de perros y gatos: un problema de salud pública y de medicina veterinaria. *Bol Oficina Sanit Panam* 94(6):571–586, 1983.

Schottler, G. Studie zum Vorkommen von Wurmeiern—insbesondere von Eiern des Hundespulwurmes (Larva migrans visceralis-Syndrom) im Strandsand von Warnemunde 1997. *Gesundheitswesen* 60(12):766–767, 1998.

Shimizu, T. Prevalence of *Toxocara* eggs in sandpits in Tokushima city and its outskirts. *J Vet Med Sci* 55(5):807–811, 1993.

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## ƥɑT DŽǁɛ ƕĭďƐNjĭΘǁɛ lƑDŽNjł ƨNjŧlďǓɛ ƅɛɑ
## ZOONOTIC ANCYLOSTOMIASIS

### ǌƥƆǓɛ ƕĭT ʅǁɛ ƔɑNjɑǁɛ f ɛƥDžƈ lƑDŽNjł ƨNjŧlďǓɛ ƅɛɑ
### ICD-10 B76.0 Ancylostomiasis; B76.8 Other hookworm diseases

Ankylostomia- ğĀηζ0èζŸÒφɉä ŏäá Ûhookworm ǴĘÔÎöä ģáşÆöä ôĀη ˙ğĀζâäĀ0ţä .uncinariasis ğĀĘÔÎöä ŏäá Ûnecatoriasis ğĀõĀφĀöä ŏäá Ûsis

*ǴĘǴŸÒöä Āηζ0èζŸÒφɉä* ˙ğäáζÊŁţä ƀŁ ôäĀηɉä ȻØT ǴǴǴÊţä Ōηäζȟöä ˙ğĀĘǴǴÊöä Ź 1982 ʔø0ģ ·(ÙÛÕŸö) *ceylanicum* *ǴĘφŸĪÊöäş* (āŸÒŸö) *Ancylostoma caninum* ɄøǪöäǴĘǴŸÒöä Āηζ0èζŸÒφɉä ȸʒ ǴƤĀĀöä ǴĀĀÎǴöä ʔşÆȟöä ȸη ÙŐζ ğɍĀģ Ǩè ȸʒ ŋĘŸǴǪöä Û1990 Ž ĀĘöäĀ0èÛ Ž ğ¥DzÊöä ʔŸʒ ĺáĀŁ0ʒä ˙Ōõ ʔŸʒ ·(Barriga, 1982) ʔȟţä ÆĘÔķ ǴĀζȟţä ǴĀĀÎǴöä ʔşÆȟöä ǨĀòş ·ɭĘŸşɋä Õöæ Ž ǴȞəĀì ğĀĘŸĪĀÛöä ɉÛ ɉǿä ȣĀʒ ʔşÆȟöä ȸη ğɍĀģ ģÆʒ ǨŸDzè 1950 ÿĀʒ Ž ·ǴȞəĀì Ǩɖ ĀƮĀÒö Û*ǴĘφŸĪÊöä Āηζ0èζŸÒφɉĀä* *ǴĘŸäĀĪĀöä* Ǩæ ȧĀĀöä ɭƮĀĀ ɉÛ Ōǻę *A.braziliense* *ǴĘŸäĀĪĀöä Āηζ0èζŸÒφɉä* ȸʒ ǴΘĀĀöä ǴĀĀÎǴöä ȯĀ8ǩΞöä Ž) ÙŐζ ģÆģĀş ǴöĀģ ǨŸDzè ÛĀηĀǪ ȼæ ĀŁŸÊη ȧĀĀöä ǴǴòÛ ɉÛ ØĀηş ·*ǴĘφŸĪÊöäş* şÆǴĀ ˙Ōõ ʔŸʒ ·ɖʒζĀöä Ǩæ ǨÛŸǹ ǴÕæĀÊöä ĀĀøĀÔ0öä ɉζÒķ ɉÛ ŌŁ0ŧä ȸη ȬöØöş Û(1970

(Cypess, 1982)

*malayanum* *Netcor suillis* *japonica*

(Barriga, 1982)

Rose *et al.*,)

(el-Naggar *et al.*, 1994)

(Wilkinson *et al.*, 1990) (1996

(Salifu *et al.*, 1990) 100 %81

rhinoceri

1.3 (1997) (Barriga, 1982)

96

0.6 – 0.3 20 – 11

16.000

°30 – °23 %90

48 – 24

(Barriga, 1997)

(Ashton *et al.*, 1999)

(Hotez *et al.*, 1994)

48 – 44

14

(Barriga, 1982) 1982

[illegible] 1990 [illegible] 93 [illegible] (Prociv *et al.*, 1990) [illegible] 6 [illegible] (Prociv and croese, 1996) [illegible] %99 [illegible] 80 [illegible] %60 – %20 [illegible] (Malgor *et al.*,1996) [illegible] %49 [illegible] 1967 [illegible] 1982 – 1968 [illegible] 140 [illegible] 5 [illegible] 15 [illegible] 2 [illegible] 45 [illegible] 7 [illegible] (Barrgia, 1982) [illegible] 183 [illegible] 16 [illegible] 29 [illegible] 23 [illegible] 2.6 [illegible] 54: 25: 1 [illegible] 16 [illegible]

[illegible] %80 [illegible] 50 [illegible] %60 [illegible] 102 [illegible] %25 [illegible] *tubaeforume* [illegible] %41 [illegible] 1502 Baker *et al.*,) [illegible] %1.4 [illegible] %3.3 [illegible]

.(1989

[illegible] (Cappello *et al.*, 1995) [illegible] %5 [illegible] .(Prociv *et al.*, 1996)

[illegible] 150 – 50 [illegible] 8 [illegible] 20 – 15 [illegible] 5 – 3 [illegible] .(Wijers *et al.*, 1966) [illegible]

[illegible]

[illegible] *Uncinaria stencephala* [illegible] %10 [illegible] %15 [illegible] .(Barriga, 1997) [illegible]

[illegible] .(Croese *et al.*, 1994) [illegible] desiccarion [illegible] °12 [illegible]

[illegible]

[illegible] %15 [illegible] %10 [illegible] Western [illegible] G [illegible] E [illegible] 68 [illegible] (Prociv *et al.*, 1996) [illegible]

[illegible] 2.000 [illegible] 5.000 [illegible] 50 [illegible] 11.000 [illegible]

[illegible] Hotez *et al.*,) [illegible] 70 [illegible] (1996 [illegible]

[illegible] %6.2 [illegible] %2.6 [illegible] 5.000 [illegible] Umeche *et* [illegible] (*al.,* 1989 [illegible]

## [illegible]


Albonico, M., L. Savioli. Hookworm infection and disease: Advances for control. *Ann Ist Super Sanita* 33(4):567–579, 1997.

Ashton, F.T., J. Li, G.A. Schad. Chemo- and thermosensory neurons: Structure and function in animal parasitic nematodes. *Vet Parasitol* 84(3–4):297–316, 1999.

Baker, M.K., L. Lange, A. Verster, S. van der Plaat. A survey of helminths in domestic cats in the Pretoria area of Transvaal, Republic of South Africa. Part 1: The prevalence and comparison of burdens of helminths in adult and juvenile cats. *J S Afr Vet Assoc* 60(3):139–142, 1989.

Barriga, O.O. Ancylostomiasis. *In*: Schultz, M.O., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Cappello, M., G.P. Vlasuk, P.W. Bergum, S. Huang, P.J. Hotez. *Ancylostoma caninum* anticoagulant peptide: A hookworm-derived inhibitor of human coagulation factor Xa. *Proc Natl Acad Sci USA* 92(13):6152–6156, 1995.

Croese, J., A. Loukas, J. Opdebeeck, S. Fairley, P. Prociv. Human enteric infection with canine hookworms. *Ann Intern Med* 120(5):369–374, 1994.

Cypess, R.H. Cutaneous larva migrans. *In*: Schultz, M.O., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

el-Naggar, H.M., A.M. el-Shazly, M. el-Mahdy. Immune response in dogs infected with *Ancylostoma duodenale*. *J Egypt Soc Parasitol* 24(1):77–83, 1994.

Harvey, J.B., J.M. Roberts, P.M. Schantz. Survey of veterinarians' recommendations for treatment and control of intestinal parasites in dogs: Public health implications. *J Am Vet Med Assoc* 199(6):702–707, 1991.

Hotez, P., M. Cappello, J. Hawdon, C. Beckers, J. Sakanari. Hyaluronidases of the gastrointestinal invasive nematodes *Ancylostoma caninum* and *Anisakis simplex*: Possible functions in the pathogenesis of human zoonoses. *J Infect Dis* 170(4):918–926, 1994.

Hotez, P.J., J.M. Hawdon, M. Cappello, *et al.* Molecular approaches to vaccinating against hookworm disease. *Pediatr Res* 40(4):515–521, 1996.

Malgor, R., Y. Oku, R. Gallardo, I. Yarzabal. High prevalence of *Ancylostoma* spp. infection in dogs, associated with endemic focus of human cutaneous larva migrans, in

Tacuarembó, Uruguay. *Parasite* 3(2):131–134, 1996.

Prociv, P., J. Croese. Human eosinophilic enteritis caused by dog hookworm *Ancylostoma caninum*. *Lancet* 335(8701):1299–1302, 1990.

Prociv, P., J. Croese. Human enteric infection with *Ancylostoma caninum*: Hookworms reappraised in the light of a "new" zoonosis. *Acta Trop* 62(1):23–44, 1996.

Rose, R.A., J.M. Behnke. *Necator americanus* in the DSN hamster: Density-dependent expulsion of adult worms during primary infection. *Parasitology* 100 Pt 3:469–478, 1990.

Salifu, D.A., T.B. Manga, I.O. Onyali. A survey of gastrointestinal parasites in pigs of the Plateau and Rivers States, Nigeria. *Rev Elev Med Vet Pays Trop* 43(2):193–196, 1990.

Umeche, N., L.E. Mandah. *Musca domestica* as a carrier of intestinal helminths in Calabar, Nigeria. *East Afr Med J* 66(5):349–352, 1989.

Wijers, D.J.B., A.M. Smith. Early symptoms after experimental infection of *Ancylostoma braziliense* var. *ceylanicum*. *Trop Geogr Med* 18:48–52, 1966.

Wilkinson, M.J., C. Wells, J.M. Behnke. *Necator americanus* in the mouse: Histopathological changes associated with the passage of larvae through the lungs of mice exposed to primary and secondary infection. *Parasitol Res* 76(5):386–392, 1990.

World Health Organization (WHO). *Intestinal Protozoan and Helminthic Infections. Report of a WHO Scientific Group*. Geneva: WHO, 1981. (Technical Report Series 666.)

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## ZOONOTIC FILARIASIS þqTĎŽllĘ ƕĭĩĚŊĭΘllĘ lƑĭþűĭŽllĘ ƅĘq

ƅĘŊjqç **B74.8** ÛƕĭŊűĎŽĺĺĘ ƕĭŰŊþĜĺĘ DžŸ !ŰƑĩllĘ lƑĭþűĭŽllĘ ƅĘq **ICD-10 B74.1**

njþqŮĘ lƑĭþűĭŽllĘ

**ICD-10 B74.1 Filariasis due to *Brugia malayi*; B74.8 Other filariasis**

ĞĺşŸţá ĞÉDŽşƎöä ˙øÆÔţã ĞÉφäζΕΣä ğÅΛøŸΕÀöä ƱĿ ʔşäÆĤöä ȻØĿ Ōŋäζɜ ˙ğÅÉĞĞÊöä *B.pahangi* ĞÉDzÆĿÁĞöä ĞÉDŽşƎöä ˙Ōŧϙǂã ȡŋş Û(ĞÔęÅÀöä ĞΛøşÆöä ŌÒĭ) *Brugia malayi* ĞΫŰÂÁÀöä) öÂÛΐƖåş *Dirofilaria immitis* ğåşÆŸöä öÂÛΐƖåş Û*B.leporis* ĞÉèøζĞŸöä ĞÉDŽşƎöäş Û*Loaina* ĞÉφäζŸöä ţζϙş Û*repens* ĞÉɜÅÊöä (ĞΫŰÂÁÀöä) öÂÛΐƖåş *tenuis* ĞęÄϙÊţá (*Nochtiella* ȡŋ ĞÀŸϙƯ ţäζϙÜş *onchecerca* ÆϙØöä ĞÉŸŏ ţζϙş *Meningonema* öÂĦÊöä ţζϙş ǨζÄĤϙèã Æęş ÛJÅÊφqã Ž ÀĿÅŢϙĸ ɄøϙÖä ȐĤä ȡŧȐϙĸ ĞζÄĤϙÊŋ ƘǬ ĞÉφäζΕğ ğÅΛøŸΕζ Beaver *et al.*, 1984,) Û*Bolivaremis* ĞÉÅöζĞöä ĞΛøŸΕζşÄÒţåş *Semiclarum* ĞΛøŸΕζşÄÒţƖõ .(Orihel and Eberhard, 1998

[illegible] (Subperiodic [illegible])  [illegible]
[illegible]
[illegible]
[illegible] .(Nutman, 1991) [illegible]
[illegible] Microfilaria [illegible] (1991) [illegible]
[illegible] %60 [illegible] *Leporis* [illegible]
[illegible] 21 [illegible]
[illegible]
[illegible] 8 [illegible] (1989) [illegible]
[illegible] 3 [illegible]
[illegible] *Dipetalonema* [illegible]
[illegible]
[illegible] 30 [illegible]
[illegible] .(Barriga, 1982) [illegible]
[illegible] subgenus *Nochtiella* [illegible]
[illegible] .Cutialae [illegible]
[illegible] *tenuis*
[illegible] *repens* [illegible]
[illegible]) *onchocerca* [illegible]
[illegible] 6 [illegible] ([illegible] *gutturosa* [illegible]
Burr *et*) [illegible]
[illegible] *Loaina* [illegible] .(*al.*, 1998
[illegible] (*Peruzzii* [illegible]) *Meningonema* [illegible] .(Beaver, 1989)
[illegible] *Cercopithecus* [illegible]
.(Boussinesq *et al.*, 1995) [illegible]

[illegible] *bancrofti Wuchereria* [illegible] *Loa loa* [illegible] *Vululus* [illegible] *Timori* [illegible] *Tetrapetalomema* [illegible] *Mansonella Ozzardi* [illegible] *Perstans* [illegible] .(Dissanaike, 1979) [illegible] *T.streptocerca* [illegible] .(Dissanaike, 1979) [illegible] Mandrill [illegible] *Papionia* [illegible] *Chrysops* [illegible] .(Dissanaike, 1979) [illegible] anthropoid .(WHO, 1979)

[illegible] Viviparous [illegible] Microfilariae [illegible] Shell [illegible] Sheath [illegible]

[illegible]

[illegible] (Subperiodic [illegible]

[illegible] $10^{-5}$ [illegible]

[illegible] Pangolin [illegible] *B .pahangi* [illegible] .(*Manis javanica*) [illegible]

[illegible] *Armigeres subalbatus* [illegible] 22 [illegible] :2000 [illegible] *B. beaveri* [illegible] .(Eberhard *et al.*, 1991) [illegible]

[illegible] .(Kozek *et al.*, 1984)

[illegible]

[illegible] %40 [illegible] %70 [illegible] %1 [illegible]

[illegible] 1982: [illegible] 14 [illegible] (Barriga,1982)

[illegible] 229 (1995) [illegible] 150 (1999) [illegible]

[illegible] 1995 [illegible] 2000 [illegible] 10 [illegible] 6 [illegible]

[illegible] 4 [illegible] 3 [illegible] 1 [illegible]

Asimacopoulos *et*) 1992 [illegible] 87 [illegible]

[illegible] 5 [illegible] .2000 [illegible] (*al.*, 1992

1995 [illegible] 118 [illegible] 1968 [illegible]

[illegible] Dirofilariasis [illegible] .2000 [illegible] 10 (Makiya, 1997)

[illegible] (*Procyon lotor*) [illegible]

[illegible] *D. repens* [illegible]

[illegible]

[illegible]

.(Dissanaike, 1979) [illegible]

[illegible]

[illegible]

[illegible] 397 [illegible] 1995: [illegible] %20 [illegible] %5 [illegible]

[illegible] 168 [illegible]

1998 [illegible] 4 [illegible] .(Pampiglione *et al.*, 1995)

[illegible] .(Marty, 1997) [illegible] 30 [illegible] 1996 [illegible] 60 [illegible]

(Marty, 1997) [illegible] 5.000 [illegible] %1.4 [illegible]

[illegible] .(Chauve, 1997) [illegible] %20 [illegible]

[illegible] 20 [illegible] 1990 [illegible] 20 [illegible]

Makiya,) [illegible] 4 [illegible] 12) 1997 [illegible] .(1997

[illegible] Reconditum [illegible] 4 [illegible] .(Vakalis *et al.*, 1997) %37 [illegible] %12 [illegible] *grassii* [illegible] 70 [illegible] 1997 [illegible] .(Dissanaike *et al.*, 1997) %60 [illegible] %30 [illegible]

[illegible] Onchoceriasis [illegible] .(Burr *et al.*, 1998) [illegible] *Dipetalonema* [illegible] .(Beaver *et al.*, 1984) [illegible] 4) [illegible]

[illegible] native [illegible] Filaremia [illegible] Gutierrez and) [illegible] Kozek *et al.*,) [illegible] .(petras, 1982 .(1984

[illegible]

[illegible] .thrombus [illegible] 4 – 1 [illegible] .(Echeverri *et al.*, 1995) coin [illegible] .(Barriga, 1982) [illegible] (%56) 22 [illegible] 39 [illegible] (Flieder and Moran, 1999) [illegible] .(Rodrigues *et al.*, 1995) [illegible]

[illegible] 397 [illegible] :1995 [illegible] .(168) [illegible] .(Pampiglione *et al.*, 1995) [illegible] .(Marty, 1997) [illegible]

.(Marty, 1997) [illegible]

[illegible]

[illegible] *D. conjunctivae* [illegible] Sarcoidosis [illegible] 56 [illegible] .(Kersten *et al.*, 1994) [illegible] .(Beaver, 1989) [illegible] 3 [illegible] (*Erethizon dorsatum* [illegible]) [illegible] *D. arbuta* [illegible] .(*Costor Canadensis*) [illegible] *S.sprenti* [illegible]

[illegible] Burr *et al.*,) [illegible] .(1998

[illegible] .(Snowden *et al.*, 1989) [illegible]

[illegible]

[illegible] (Barriga, 1997) [illegible]

[illegible] 72 – 24 [illegible]

[illegible] Scab [illegible]

[illegible] *Preshytis obscurus* [illegible] *Macaca irus* [illegible] *Mansonia* [illegible] (Senham *et al.*, 1977) [illegible]

[illegible] 8 [illegible]

[illegible] evident [illegible] knott [illegible]

[illegible] 6 [illegible] %15 [illegible]

(Simon *et al.*, 1997)

(Favia *et al.*, 1997)

Cancrini *et al.*,)

(1999

Asimacopoulos, P.J., A. Katras, B. Christie. Pulmonary dirofilariasis. The largest single-hospital experience. *Chest* 102(3):851–855, 1992.

Barriga, O.O. Dirofilariasis. *In*: Steele, J.H., section ed. Section C, Vol. 2: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982:93–109.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Beaver, P.C. Intraocular filariasis: A brief review. *Am J Trop Med Hyg* 40(1):40–45, 1989.

Beaver, P.C., R. Brenes, G. Vargas Solano. Zoonotic filaria in a subcutaneous artery of a child in Costa Rica. *Am J Trop Med Hyg* 33(4):583–585, 1984.

Boussinesq, M., O. Bain, A.G. Chabaud, N. Gardon-Wendel, J. Kamgno, J.P. Chippaux. A new zoonosis of the cerebrospinal fluid of man probably caused by *Meningonema peruzzii*, a filaria of the central nervous system of Cercopithecidae. *Parasite* 2(2):173–176, 1995.

Burr, W.E., Jr., M.F. Brown, M.L. Eberhard. Zoonotic *Onchocerca* (Nematoda: Filarioidea) in the cornea of a Colorado resident. *Ophthalmology* 105(8):1494–1497, 1998.

Cancrini, G., G. Prieto, G. Favia, *et al*. Serological assays on eight cases of human dirofilariasis identified by morphology and DNA diagnostics. *Ann Trop Med Parasitol* 93(2):147–152, 1999.

Chauve, C.M. Importance in France of the infestation by *Dirofilaria (Nochtiella) repens* in dogs. *Parassitologia* 39(4):393–395, 1997.

Dissanaike, A.S. Zoonotic aspects of filarial infections in man. *Bull World Health Organ* 57(3):349–357, 1979.

Dissanaike, A.S., W. Abeyewickreme, M.D. Wijesundera, M.V. Weerasooriya, M.M. Ismail. Human dirofilariasis caused by *Dirofilaria (Nochtiella) repens* in Sri Lanka. *Parassitologia* 39(4):375–382, 1997.

Eberhard, M.L., S.R. Telford III, A. Spielman. A *Brugia* species infecting rabbits in the northeastern United States. *J Parasitol* 77(5):796–798, 1991.

Echeverri, A., R.F. Long, W. Check, C.M. Burnett. Pulmonary dirofilariasis. *Ann Thorac Surg* 67(1):201–202, 1999.

Favia, G., A. Lanfrancotti, A. della Torre, G. Cancrini, M. Coluzzi. Advances in the identification of *Dirofilaria repens* and *Dirofilaria immitis* by a PCR-based approach. *Parassitologia* 39(4):401–402, 1997.

Flieder, D.B., C.A. Moran. Pulmonary dirofilariasis: A clinicopathologic study of 41 lesions in 39 patients. *Hum Pathol* 30(3):251–256, 1999.

Gutiérrez, Y., R.E. Petras. *Brugia* infection in northern Ohio. *Am J Trop Med Hyg* 31(6):1128–1130, 1982.

Kersten, R.C., A.J. Locastro, M.L. Eberhard, A.G. Spaulding, D.R. Kulwin. Periorbital dirofilariasis. *Ophthal Plast Reconstr Surg* 10(4):293–296, 1994.

Kozek, W.J., M.A. Reyes, J. Ehrman, F. Garrido, M. Nieto. Enzootic *Brugia* infection in a two-year old Colombian girl. *Am J Trop Med Hyg* 33(1):65–69, 1984.

Makiya, K. Recent increase of human infections with dog heart worm *Dirofilaria immitis* in Japan. *Parassitologia* 39(4):387–388, 1997.

Marty, P. Human dirofilariasis due to *Dirofilaria repens* in France. A review of reported cases. *Parassitologia* 39(4):383–386, 1997.

Nutman, T.B. Experimental infection of humans with filariae. *Rev Infect Dis* 13(5):1018–1022, 1991.

Orihel, T.C., P.C. Beaver. Zoonotic *Brugia* infections in North and South America. *Am J Trop Med Hyg* 40(6):638–647, 1989.

Orihel, T.C., M.L. Eberhard. Zoonotic filariasis. *Clin Microbiol Rev* 11(2):366–381, 1998.

Pampiglione, S., G. Canestri Trotti, F. Rivasi. Human dirofilariasis due to *Dirofilaria (Nochtiella) repens*: A review of world literature. *Parassitologia* 37(2–3):149–193, 1995.

Rodrigues-Silva, R., H. Moura, G. Dreyer, L. Rey. Human pulmonary dirofilariasis: A review. *Rev Inst Med Trop Sao Paulo* 37(6):523–530, 1995.

Simon, F., G. Prieto, A. Muro, G. Cancrini, M. Cordero, C. Genchi. Human humoral immune response to *Dirofilaria* species. *Parassitologia* 39(4):397–400, 1997.

Snowden, K.F., B. Hammerberg. The lymphatic pathology of chronic *Brugia pahangi* infection in the dog. *Trans R Soc Trop Med Hyg* 83(5):670–678, 1989.

Vakalis, N.C., C.A. Himonas. Human and canine dirofilariasis in Greece. *Parassitologia* 39(4):389–391, 1997.

World Health Organization (WHO). *Parasitic Zoonoses. Report of a WHO Expert Committee, with the Participation of FAO*. Geneva: WHO; 1979. (Technical Report Series 637).

# القسم الثالث

# مفصليات الأرجل (المفصليات)

## [illegible]
## DERMATITIS CAUSED BY MITES OF ANIMAL ORIGIN

### ICD-10 B88.0 Other ascariasis [illegible] ICD-10 B88.0

sarcoptic [illegible] mite [illegible] mange [illegible] scabies [illegible] acarid [illegible] Dermanyssidae [illegible] Cheyletiellidae [illegible] Macronyssidae [illegible].

[illegible] *Cheyletiella* [illegible] ectoparasites [illegible] *C. yasguri* [illegible] *C. parasitovorax* [illegible] *C. blakei* [illegible] palp [illegible] 0.3 × [illegible] 0.4 [illegible] (0.1 × [illegible] 0.2) [illegible] 35 [illegible] hexapod [illegible] 3 – 2 [illegible] nymphal [illegible] (gallery [illegible]) [illegible] 10 [illegible] "walking dandruff [illegible]".

[illegible] 1.0 – 0.8 [illegible] *D. gallinae* [illegible] (*Allodermanyssus* [illegible]) *Liponyssoides sanguineus* [illegible] 24 – 12 [illegible] 34 [illegible] 51 [illegible] 23 – 18 [illegible]

[illegible] *Ornithonyssus bacoti* [illegible] *O. bursa* [illegible] *O. sylviarum* [illegible] *Bdellonyssus* [illegible] *Liponyssus* [illegible] 16 – 11 [illegible]

[illegible] 10 [illegible] 7 [illegible] 4 – 3 [illegible]

[illegible] 1991 [illegible] 1990 [illegible] 36 [illegible]

[illegible] (Paradis, 1998) [illegible] 0.23 [illegible] 41 [illegible] 0.11 [illegible] 28 [illegible] 10 [illegible] (McKeevar and Allen, 1979) [illegible]

[illegible] [8] [illegible] [23] [illegible] (*Mus musculus* [illegible]) [illegible] [10] [illegible]

[illegible] *Rickettsia akari* [illegible]

[illegible] crusted [illegible] exfoliative [illegible] scaly [illegible] tinea [illegible]

[illegible] spirochetosis [illegible] *Borrelia anserine* [illegible] debility [illegible]

[illegible] .(Flynn, 1973)

[illegible]

[illegible] 10 [illegible] (Hippoboscidae [illegible]) [illegible]

[illegible] (Engel *et al.*, 1998) [illegible] (Blankenship, 1990) [illegible]

[illegible] impressions [illegible] (Miller, 1983) [illegible]

[illegible]

[illegible]

[illegible]

Blankenship, M.L. Mite dermatitis other than scabies. *Dermatol Clin* 8(2):265–275, 1990.

Engel, P.M., J. Welzel, M. Maass, U. Schrammi, H.H. Wolff. Tropical rat mite dermatitis: Case report and review. *Clin Infect Dis* 27:1465–1469, 1998.

Flynn, R.J. *Parasites of Laboratory Animals*. Ames: Iowa State University Press; 1973.

McKeevar, P.J., S.K. Allen. Dermatitis associated with *Cheyletiella* infestation in cats. *J Am Vet Med Assoc* 174(7):718–720, 1979.

Miller, W.H. *Cheyletiella* infestation. *In*: Parish, L.C., W.B. Nutting, R.M. Schwartzman, eds. *Cutaneous Infestations of Man and Animal*. New York: Praeger; 1983.

Paradis, M. Mite dermatitis caused by *Cheyletiella blakei*. *J Am Acad Dermatol* 38(6 Pt 1):1014–1015, 1998.

Pecheur, M., H. Wissocq. Un cas de gale due à *Cheyletiella parasitovorax* chez un chat. *Ann Med Vet* 125:191–192, 1981.

# MYIASES [illegible]

## ICD-10 B87 Myiasis [illegible] ICD-10 B87

[illegible] dipteria [illegible] invaders [illegible] *Chrysomyia bezziana* [illegible] *Cochliomyia hominivorax* [illegible] *Dermatobia* [illegible] *Cordylobia anthropophaga* [illegible] *Gasterophilus* [illegible] *Cuterebra* [illegible] *hominis* [illegible] *Rhinoestrus purpureus* [illegible] *Oestrus ovis* [illegible] *Hypoderma* [illegible] *Wohlfahrtia* [illegible]

### [illegible] .1
### 1. Myiasis Caused by Larvae of *Cochliomyia hominivorax*

[illegible] Screwworm [illegible] *Callitroga* [illegible] bluish [illegible] Calliphoridae [illegible]

[illegible] 15 – 10 [illegible]
[illegible] 1988
[illegible] 1991
[illegible] *Macellaria* [illegible] .(Barriga, 1997) [illegible]
[illegible]
[illegible]
.(Taylor *et al.,* 1996)

[illegible] (screwworm [illegible]) [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] 100 [illegible] 50 [illegible]
[illegible]

[illegible] 400 – 12 [illegible]
[illegible] 4.000 [illegible]
[illegible] 21 – 11 [illegible]
[illegible] 2 [illegible] 8 – 4 [illegible]
[illegible] pupae [illegible]
[illegible] 4 – 3 [illegible]
[illegible] 3 [illegible]
[illegible]
[illegible] 50 [illegible]

[illegible]

[illegible] Amarante *et al.*,) [illegible] 12 [illegible] (1992 [illegible] exudate [illegible]

[illegible] (tegumentary [illegible]

[illegible] prostration [illegible] %20 [illegible]

[illegible]

[illegible] ozena [illegible] palatine vault [illegible] Chodosh and Clarridge,) [illegible] .(1992

[illegible] navel [illegible] (tegumentay [illegible] fertile [illegible] 1954 [illegible] pilot [illegible] 1975 [illegible] 14 [illegible] 261 [illegible] 179 [illegible] 1974 [illegible] 1959

1972 screw

1991 1988

Krafsur and)

.(Lindquist, 1996

panacea

200

epizootic

.(Reichard, 1999)

## 2. Myiasis Caused by Larvae of *Chrysomya bezziana*

.(Sutherst *et al.*, 1989)

.(Sachdev *et al.*, 1990)

## 3. Furuncular Myiasis Caused by Larvae of *Cordylobia anthropophaga*

"tumba" *Cordylobia anthropophaga* .Calliphoridae ("mango" .(Omar and Abdalla, 1992) .(Jelinek *et al.*, 1995) 4 – 3 *C. rodhaini* 150 .(Soulsby, 1982)

## 4. Furuncular Myiasis Caused by Larvae of *Dermatobia hominis*

moyocuil Torsalo ura mirunta mucha berne 18 – 12 *Dermatobia hominis* Cuterebridae

[illegible] (Sampson *et al.*, 2001)

[illegible] 50 [illegible] phoresy [illegible] 10 – 7 [illegible] 20 – 15 [illegible] 18 – 4 [illegible] 77 – 28 [illegible] 9 – 1 [illegible] 24 [illegible] (vestigial [illegible]) [illegible] socket [illegible]

[illegible] 200 [illegible]

[illegible] 363 [illegible] %41.3 [illegible] 104 [illegible]

[illegible]

[illegible] .5
**5. Furuncular Myiasis Caused by the Larvae of *Cutrebera* spp**

[illegible] 20 [illegible] *Cuterebra* [illegible] furunculoid [illegible]

C. emasculator (chipmunk

.(Glass *et al.*, 1998)

8 54 (1989)

.2001

6.

**6. Furuncular Myiasis Caused by Larvae of *Hypoderma* spp.**

*Hypoderma* .Oestridae *H. bovis* *lineatum*

[illegible] epidural [illegible] 6 – 2 [illegible] 11 – 10 [illegible] 3 [illegible] 12 – 11 [illegible] 10 [illegible] 3 – 1 [illegible] 8 [illegible]

[illegible] 35 [illegible] (1956 [illegible]) [illegible] 192 [illegible] (Soulsby, 1982) [illegible] 13 [illegible]

[illegible] *H. diana* [illegible] 100 [illegible] (Doby and Deunff, 1982) [illegible] Endophthalmias [illegible] (1990) [illegible] 13 [illegible] (Navajar *et al.,* 1998; Starr *et al.,* 2000) [illegible] (Kalelioglu *et al.,* 1989) [illegible]

[illegible] 10) [illegible]

**7. Myiasis Caused by the Larvae of *Oestrus ovis* and *Rhinoestrus purpureus***

12 – 10 *Oestrus ovis* larviparous

*Rhinoestrus purpureus*

10 – 2

28 – 2 5 – 4

.(Dorchies, 1997)

.(Dar *et al.*, 1980)

112 %80

%54

(77)

(32) (56)

.(Pampiglione *et al.*, 1997)

80

8 .(Dar *et al.*, 1980) 100.000 10

oestriasis .(Nacapunchai *et al.*, 1998)

10 – 3

.(otomyiasis

Zayed,)

.(Rastegaev, 1980) burros (1992

## [illegible] .8
## 8. Myiasis Caused by the Larvae of *Gasterophilus* spp.

[illegible] (*Gasterophilus intestinalis*) [illegible] (*G. haemorrhoidalis*) [illegible] (*G. nasalis*) [illegible] *G. pecorum* [illegible] *G. inermis* [illegible] *G. nigricornis* [illegible] 7 – 2 [illegible] 4 – 3 [illegible] %1 [illegible] 10 – 8 [illegible]

[illegible] .(Soulaby, 1982) [illegible]

[illegible] (Royce *et al.*, 1999) 1989 – 2001 [illegible] affliction [illegible]

tegument

## 9. Furuncular Myiasis Caused by Larvae of *Wohlfahrtia* spp.

*Magnifica* vigil

Sarcophagidae

nectar

17 – 11 12 – 10 9 – 7

pest

[illegible]

.(Ciftcioglu *et al.,* 1997; Delir *et al.,* 1999; Iori *et al.,* 1999) [illegible]

**Facultative or Semispecific Myiases** [illegible]

[illegible] dipterans [illegible] *Lucilia* (*Phaenicia* [illegible]) *sericata* [illegible]

[illegible] *Parasarco-* [illegible] *Sarcophaga* [illegible]) Sarcophagidae [illegible]

[illegible] *Phormia* [illegible] *Lucilia* [illegible]) Calliphoridae [illegible] (*phaga* [illegible]) calliphorine [illegible] (*Paraphormia* [illegible] "fleece-fly strike" [illegible] "blowfly" [illegible] merino [illegible] calliphorine [illegible] *Lucilia cuprina* [illegible] *L. sericata* [illegible] *Protophormia* [illegible] *Phormia regina* [illegible] *terraenovae* [illegible] excoriated [illegible] preputial [illegible] rotten [illegible]

[illegible] 2001, 1989 [illegible] *Lucilia* [illegible]

ǦφȦȦÊȽǾ Ȗ*Phormia* ȤÊȽǾ Ȗ*Parasarcophaga* ǦȽφȦŧĦȔǾ Ȗ*Sarcophaga* ǦŧĦȔǬÊţ ŏäå ȸŋ ǦöȦǵ 14 ƙǟ ȸŧȥ ˙ȀȀǩȥǩ Ȁǯõɉ Ʉ Ƚ ȤÎȴ ğȦȩȀȀ ɉ ǚ şǼǤȀş ·*Paraphormia* ğɍȦǵ 10 Ǩŧʊ ȦȽöȀǪèüä ɉȀÊȀȀ Ž ƙǪȀè ȯƳǹ ȦȾȀȝ ȠȽǬǬöä Ź ɄøǬöä ɃȀÎǤöä Ȥ8ȀǾä *Parasarcophaga* ȄŋǟȥǾ ǦȽȦǯ ǦȽφȦŧĦȔǾ ȸȝ ɉȦǬȀǭş *L. cuprina* ɄèȦĦȀǾ ȤÎȴ ȸȝ ǢǤÊǟş ȖȻØȽ Ȥ8ȀǾä ŏäşåǗ ǢȽÔǩ ·(Lukin, 1989) ɉȦǬȀǵ ȣȀȞǬÊǩ Ɓş Ȗ*crassipalpis* ʡƳȝ ȸȀøåȦȪöä Ƙȡ ǢǤè Ƀɉ ƙȀȞȒţ şǗ ȸȀǢȞȪţ şǗ ʣşȀƛ ƙȀÔţ ȉȦǺȉɉ ȖȀȾǬȞȽǤü ȤÊȽǾ ȸȝ ǦƤȦφ ǦȀȥȦÎŋ ğäøȦÎǬǵ ȯȥǵ ȀøȦȪǬöä ȸŋ åǢȝ ōȦȀȽ ɉȦõ ·ȴȾÊȦφüä ǦȀȦȀȞöä ȖǤȀè 87 ȦȽȀŧȝ ȀȒǬƠ ǵǗȀŋ ǢȀȝ ȳǿş Ž ǦöȦǵ ōȀȀȽ ǦöȦÊöä ȦȽōȦȥȥƳè ȥȮȽÎǩ Ž ˙ɄøǤȡȂǾ ˙ȀȀǿȥõ Žş ·(Daniel *et al.*, 1994) ǵåǢȞǬŋ ʣȥȑȀǟ ƙȀÔŋ ƙȒȀŋ ȤφǗş ȴȥ Ž ɉȦǬöȦǵş Ƙ8ò ǰȀǢǹ ǦöȦǵ (ŌȽȀȀèǗ) ƙÛÊƳȥ Žş ȖȯȥƳÎŋ ȐȀȀŋ ǢȀȝ ȳȥȞƳǟ ɄȀφǗ āȥǤφǗ Ž ǦöȦǵ Mateos *et al.*,) āȥǤȀȚöä ȴȚȝ âǗȀö ǢȀǢǭ Ž ǦȀǢƳƉ ǦȽȥȥ Ž ǦöȦǵ ˙ȦȽφȦǤèǗ Žş ȖȀǢƉ ǦȽȉȦŧƳö Ǧȝ øȀŋ ǢǵȦò Ōǯŋ ȖȀȀȽȦş ŏȀĦòǗ ȉȦǺȉǗ Ž ğɍȦǵ ȸȝ ȠȽǬǬöä Ź Ȧŧõ ·(1990 ǦȀȒǵ ǦöȦǵş Ȗ¢Ʀȝ ȀǩȸȮǩ Ɓş ȖǤȽȞŧÊöä ǵȀȪöä Ž ğȦȩȀȀ 5 ȻǢȀȝ ğǢƉş ǬȽǵ ȖȀǿȥõ Ž ·ȦȽφȦǤèǗ Ž ǦǤÊǬȮŋ

ɃøȦȽǬǹɍ ɃȀÎǤöä Ȥ8ȀǾä ŏäşåɉ ȀǩȥǬŋ ǢǤè *Sarcophaga* ǦŧĦȔǬÊţ ğȦȩȀȀ ɉ ǚ şǼǤȀ ʣşȀƉ ȝŋ ǦȀè 77 ǵǗȀŋ ǢȀȝ ǵǢǵǟş ˙ȦȽφȦǤèǗ Ž ɃȥȦÎţ øȦÎǬǵɍ ȸŋ ɉȦǬöȦǵ ǨȀòş ·ȦȒȀǗ Merino *et al.*,) dementia ȣȀȵ āȦÔŋ ǦȀè 87 ȻȀŧȝ ŌƉǿ Ž ƻȀǹɉȦş ȖɄȝȦȞȉ ȀƳ ȖȤȞȒŋ ȐȀȀŋ ƙȝ Ž ğȦȩȀȀ 9 ȝŋ ɉȦǟȦȽöä Ž ǵǢǵǟş øȦÎǬǵ ǦöȦǵ ȸȝ ȠȽǬǬöä Ź ·(2000 Ž ȉȽȞǩ ǦȀè 86 ȦȽȀŧȝ ǵǗȀŋ Ž ɄƉȀȀöä Ȥ8ȀǾä ŏäå ȸŋ ȦȽφȦǤèǗ Ž ǦöȦǵ ȸȝ ȠȽǬǬöä Ź Ȧŧõ ȸȀǢȽöäş Ȥφɉ ȤȀȥθ Ž Ȥ8ȀǾä ŏäşåǗ ȸŋ ǦöȦǵ 64 ȸȝ ȠȽǬǬöä Ź ˙ǢȀȾä Žş ȖƙȀÊŧƳö øäå ǦȀǿȥèȦǤǾ ǦŧĦȔǬÊţ ˙ğȦȩȀȀ ȴȾȀŋ ǨƉȀȦǬèä Ǣęş ȖȳäØɤȀǟ ƙȀÔŋ ǢȀȝ ƙŋǢȪöä ȝȀòǗş *Callitroga* ǦȽȮȀŋɉ ǵȀȞĦǬţş ǵǢȮȀţ ǦȽǤȽǾǾ ǦȀǟǾäş *Sarcophaga haemorrhoidalis* ǢȾȚä Žş ·(Husain *et al.*, 1993) *Musca domestica* ƃȀøȀţ āȦǟǾş *americana* ǵǢȮȀţ ǦȽǤȽǾǾ ǦȀǟǾäş ǦŧĦȔǬÊţ ţȥφ ğȦȩƘǟ ɃǢƳɤ Ȥ8ȀǾä ŏäå ȸŋ ǦöȦǵ ğǢȽȥȉ ˙ȀȒȀǗ ȸȝ ȴƉȀȀöä ɃȥȞţ Ȥ8ȀǾä ŏäå ȸŋ ƙǬöȦǵ ȸȝ ȠȽǬǬöä Ź ˙ɉȦǟȦȽöä Ž ·ğäøǢƯ ȸŋǢŋ ǢȀȝ

[illegible] 8 [illegible] *Peregrina* [illegible] (Abkari *et al.*, 1999) [illegible] 15 [illegible] *Parasarcophaga argyrostoma* [illegible] *Phormia regina* [illegible]

*L. illustris* [illegible] (Fleischman *et al.*, 1999) [illegible] *vicina* [illegible] *Eucalliphora latifrons* [illegible] (Vincent *et al.*, 2000) [illegible]

## Accidental Myiases [illegible]

[illegible] *Fannia canicularis* [illegible] *Muscina stabulans* [illegible] *scalaris*

·ɃȥǶƫä Ȥ8ÀöäöäǻǫǼƠɉǕğÀȶĦǗǪÊƫä

ğɟÀǵŽȸȮǒ·ǄöÀɋôäÀ3Ǖ şǕ øÀȓɃǕÆGÊǨ ɉǕ ɉşå ääƎöä ŽǦǶŸǪƫä ğÀęĶöä ǳÀÛǨ

øÀȓÆGÊǨ Æę ÆÀÆÎöä øÀÎǪǵɟä ğɟÀǵ Žş ÛǬÀƷǳş ÆÀÛä ÀƫǕ ÆGÊǨ Æę ːʔÀǹǕ

Ȥ8Àöä öäå) ƃȥGöä ŌǴÊöä Ž Ȥ8Àöä öäşåǕ ǨÀȍş ·ʔɳÆɳ ȯÀȚèǕ ʒɳ ǤȥǶƫä ǴüÀÅȶŸö

öäå ȸɳ Ǥöǵ ȸ3 (1983) *ȼɇǻǿş* ÀǪäȥǱ ɳŸǕ ːÆÀTä Ž ·ǥøåÀɸ ÀȚÀöȍ (cystomyiasis ɄøɸÀǯƫä

(ǤÀÎΣä ȸɳ öÂƨ ÀƳ ʒɳ Ęȥäǳɳ) ɂÀÎǪÊƫä Ž ȇäÀÀöä ǴÀü ȐÀÀɳ ÆÀʒ ɄŸŸǵɋä Ȥ8Àöä

ʔÀǹǕ öäÂǱǕ Ž ɄŸèÀǪöä ƃȥGöä Ȥ8Àöä öäå ȸɳ ğɟÀǵ ğÆȽȥȉ ·ȸǱäå āÀæ ğÀęÀÀ ǤǱÆǪɸ

ȨŸè ȸɳ ɉȥɸÀǶÀ ȸÀÆǶÖɧ ƙÀÊɳ ÆÀʒ ÛɄÊƏø ŌȮÎæş ÛğäøÀÎǪǵɟä ȻØȽ ǨǪÆǵ ·ɃÀǶöä ȸɳ

ÛǴÀÀÀöä ĘüÀÀƫä Ž *Fannia* *ǴȨèȥɸÀÀöä* ƫäȥɸǕ ğÀęÀÀ ȸ3 ǤƤÀɸ ğɟÀǵ ğÆǱş Àȶõ ·ȯȥGöä

ğɟÀǵ ȐǶæ Ž ğÀęĶöä ɄȶǪǨ ɟ ·latrines ȐƐǵäÀƫä āÀę ğÆǱş Àɳ ÆĶǯõ ɄøǪöäş

øȥÛǪöä şǕ ɃØ8Ǫöä ʒƐÛǪÊǨ ɟ ʔÀǹǕ ǥøÀGǶæş ⁻ ȯşɉä øȥÛöä ƃǕ ɄŸèÀǪöä ƃȥGöä Ȥ8Àöä

ɄøɸÀǯöä øȥÛöä ğÀęÀÀ ğÆǱş ːʔÀǹǕ ğɟÀǵ Žş ·("pseudomyiasis āæÀȮöä Ȥ8Àöä")

*Fannia* *ǥÀǱÀTä* *ǴȨèȥɸÀÀöä* ȸ3 ȴǱÀɸ ƃȥæ Ȥ8ɸ öäå ȣÀǶǪèä ·ǦɸÀǯƫä Ž ǬöÀǯöä øȥÛöäş

*āÀæØöä* ȸ3 ȴǱÀÀöä ɃÆŸƨä Ȥ8Àöä öäå ȸɳ ɉÀǪöÀǵ ǨÀȍş ːÆĶǹǕ ·ÀÊɸÀȥ Ž *canicularis*

·ÆÀTä Ž ȳşØƒ ȐÀÀɳ Ž ƫȥÀöä ȨÀÀö ǨÀʒ ǦǯöÀɸ Ǥöǵ ƃǕ ǤȥÀȓǕ ÛäÀǪŸȮɸǕ Ž *ƃÀøÀƫä*

ğÀæÀæØöä ğÀƏÀæş Ž ÆÊƏø ÀøşåğÀɸäȥƐΣä ÆǶŸǨ ːôÀƫä ğÀƏÀæş Ž ğÀɸäȥƐΣä øşå

ʒƐÛǪÊǨ ɟ ÛğÀɸäȥƐΣä ȸɳ ÀȚəÀȥǪǕ ɉşÆGȥ Ûobligate ǤøÀGǱɋä Ȥ8Àöä öäşåǕ ÆGÊǨ Ʉøǫöä

Ȥ8Àöä öäşåǕ ȐǶæ Ž ɉȥȮÀş ÛğÀęĶöä ȻØT ǓÖȥ ôøÀʒ Ƀȥǫ ɉÀÊɸɋä ·ÆǱȥǨ ɉǕ ğÀæÀæØöä

*ǥƎÀöä* ȸ3 ǤƤÀÀöä Ȥ8Àöä öäşåǕ ŌǯɳÛÀȽøȥÛǨ ǥøşå ȼƐȥ ŌȶȮǨ ɉǕ ğÀęĶöä ʒƐÛǪÊǨɟ Æ8əäÀ ÀȥǪ

ɸÀʒ ƫȥęş ÆǱȥÀ ÀɳÆÀʒ ɉÀÊɸɋä Ž ǤøÀGǱɋä Ȥ8Àöä öäşåǕ ǫÆƠ ·*öäƎÀöä* ƫäȥɸǕş *ǴȶÀ8öä*

ȸÀØöä ȋÀÅȉɉä ȴȽ ÀÀÀĦȒöä ·ȤƐÔöä şǕ ʒæÀöä Ž ɄÛƴ ŌȮÎæş ÛǴɸäȥƐΣä Ȥ8Àöä öäşåɉ

ğÀęĶö ƙƐǶƐÛöä öÀÀȥǫɉæş āÀæØöä ȸɳ Ōõ ÛǥøÀÂ8æş ÛÆǱäȥǪÀ ǬƐǵ ǴÀÀø ĘüÀÀɳ Ž ɉȥÎƐǶÀ

ȼöÀƵǕ ȸȮȥş ÛĶǯȮæ ǴƵǕ ŌęǕ ğÀɸäȥƐΣä øşå ɉǖȥ ɃøÀƐǪǹɟä Ȥ8Àöä öäşåǕ Ž ÀɳǕ ·āÀæØöä

ÛøȥÛǪÀ ÛǤÀøÀƐǪǹɟä Ȥ8Àöä öäşåǕ ÆGÊÀ ɃØöä āÀæØöä ȴȚǶɳ ɉǕ ȼƐʒ ĘÀǪƫä ȸȶȥ ÛƏȶʒ

ɉȥÎƐǶÀ ȸÀØöä ȋÀÅȉɉä øÀÛǪǹä åäåÀÀ ŌöØæş ÛǤǱäÆöä ğÀɸäȥƐΣä ääÀæ Žş Ƀȥè ŌȮÎæş

[illegible]

[illegible]


Abkari, A., Z. Jouhadi, A. Hamdani, N. Mikou, N. Guessous, H.H. Khalifa. La myiase gastro-intestinale. A propos d'une observation marocaine. *Bull Soc Pathol Exot* 92(1):20–22, 1999.

Amarante, A.F., M.A. Barbosa, T.C. Oliveira-Sequeira, S. Fernandes. Epidemiology of sheep myiases in São Paulo State, Brazil. *Trop Anim Health Prod* 24(1):36–39, 1992.

Barriga, O.O. *Veterinary Parasitology for Practitioners*. 2nd ed. Edina: Burgess International Group; 1997.

Baird, J.K., C.R. Baird, C.W. Sabrosky. North American cuterebrid myiasis. Report of seventeen new infections of human beings and review of disease. *J Am Acad Dermatol* 21 (4 Pt 1):763–772, 1989.

Chodosh, J., J. Clarridge. Ophthalmomyiasis: A review with special reference to *Cochliomyia hominivorax*. *Clin Infect Dis* 14(2):444–449, 1992.

Ciftcioglu, N., K. Altintas, M. Haberal. A case of human orotracheal myiasis caused by *Wohlfahrtia magnifica*. *Parasitol Res* 83(1):34–36, 1997.

Daniel, M., H. Sramova, E. Zalabska. *Lucilia sericata* (Diptera: Calliphoridae) causing hospital-acquired myiasis of a traumatic wound. *J Hosp Infect* 28(2):149–152, 1994.

Dar, M.S., M.B. Amer, F.K. Dar, V. Papazotos. Ophthalmomyiasis caused by sheep nasal bot, *Oestrus ovis* (Oestridae) larvae, in Benghazi area of eastern Libya. *Trans R Soc Trop Med Hyg* 74(3):303–306, 1980.

Delir, S., F. Handjani, M. Emad, S. Ardehali. Vulvar myiasis due to *Wohlfahrtia magnifica*. *Clin Exp Dermatol* 24(4):279–280, 1999.

Doby, J.M., J. Deunff. Considérations sur la fréquence respective des espèces d'hypodermes (Insecta Diptera Oestroidea) à l'origine des cas humains d'hypodermose en France. *Ann Parasitol Hum Comp* 57(5):497–505, 1982.

Dorchies, P. Physiopathologie comparée de la myiase à *Oestrus ovis* (Linne 1761) chez l'homme et chez les animaux. *Bull Acad Natl Med* 181:673–683, 1997.

Fleischmann, W., M. Russ, D. Moch, C. Marquardt. Biochirurgie-Sind Fliegenmaden wirklich die besseren Chirurgen? *Chirurg* 70(11):1340–1346, 1999.

Glass, E.N., A.M. Cornetta, A. deLahunta, S.A. Center, M. Kent. Clinical and clinicopathologic features in 11 cats with *Cuterebra larvae* myiasis of the central nervous system. *J Vet Intern Med* 12(5):365–368, 1998.

Gupta, S.C., S. Kumar, A. Srivastava. Urethral myasis. *Trop Geogr Med* 35:73–74, 1983.

Husain, A., S. Husain, G.N. Malaviya, R.R. Bahadur. Myiasis in leprosy. *Acta Leprol* 8(3):137–141, 1993.

Iori, A., B. Zechini, L. Cordier, E. Luongo, G. Pontuale, S. Persichino. A case of myiasis in man due to *Wohlfahrtia magnifica* (Schiner) recorded near Rome. *Parassitologia* 41(4):583–585, 1999.

Jelinek, T., H.D. Nothdurft, N. Rieder, T. Loscher. Cutaneous myiasis: Review of 13 cases in travelers returning from tropical countries. *Int J Dermatol* 34(9):624–626, 1995.

Kalelioglu, M., G. Akturk, F. Akturk, *et al*. Intracerebral myiasis from *Hypoderma bovis* larva in a child. Case report. *J Neurosurg* 71(6):929–931, 1989.

Krafsur, E.S., D.A. Lindquist. Did the sterile insect technique or weather eradicate screwworms (Diptera: Calliphoridae) from Libya? *J Med Entomol* 33(6):877–887, 1996.

Lukin, L.G. Human cutaneous myiasis in Brisbane: A prospective study. *Med J Aust* 150(5):237–240, 1989.

Mateos, M., A. León, P. González Herranz, J. Burgos, J.A. López Mondejar, F. Baquero. Infestación por *Lucilia sericata* de los orificios cutáneos de osteotaxo en alargamiento de tibias: a propósito de un caso. *Enferm Infecc Microbiol Clin* 8(6):365–367, 1990.

Merino, F.J., A. Campos, T. Nebreda, C. Canovas, F. Cuezva. Miasis cutánea por *Sarcophaga* sp. *Enferm Infecc Microbiol Clin* 18(1):19–21, 2000.

Nacapunchai, D., C. Lamon, N. Sukprasert. A first record from Thailand of human external ophthalmomyiasis due to *Oestrus ovis*. *Southeast Asian J Trop Med Public Health* 29(1):133–136, 1998.

Navajas, A., I. Cardenal, M.A. Pinan, A. Ortiz, I. Astigarraga, A. Fdez-Teijeiro. Hypereosinophilia due to myiasis. *Acta Haematol* 99(1):27–30, 1998.

Omar, M.S., R.E. Abdalla. Cutaneous myiasis caused by tumbu fly larvae, *Cordylobia anthropophaga* in southwestern Saudi Arabia. *Trop Med Parasitol* 43(2):128–129, 1992.

Pampiglione, S., S. Giannetto, A. Virga. Persistence of human myiasis by *Oestrus ovis* L. (Diptera: Oestridae) among shepherds of the Etnean area (Sicily) for over 150 years. *Parassitologia* 39(4):415–418, 1997.

Powers, N.R., M.L. Yorgensen, P.D. Rumm, W. Souffront. Myiasis in humans: An overview and a report of two cases in the Republic of Panama. *Mil Med* 161(8):495–497, 1996.

Rastegaev, IuM. [Myiasis in man caused by larvae of the horse botfly, *Rhinoestrus purpureus* Br.]. *Med Parazitol (Mosk)* 49(5):86–88, 1980.

Reichard, R. Case studies of emergency management of screwworm. *Rev Sci Tech* 18:145–163, 1999.

Reunala, T., L.J. Laine, O. Saksela, T. Pitkanen, K. Lounatmaa. Furuncular myiasis. *Acta Derm Venereol* 70(2):167–170, 1990.

Rodríguez Diego, J.G., T. Blandino, M. Alonso, E. Mendoza, G. Seoane, N. Fregel. [Presence in Cuba of screw worms (*Cochliomyia hominivorax*) in the livestock]. *Rev Elev Med Vet Pay Trop* 49:223–225, 1996.

Royce, L.A., P.A. Rossignol, M.L. Kubitz, F.R. Burton. Recovery of a second instar *Gasterophilus larva* in a human infant: A case report. *Am J Trop Med Hyg* 60(3):403–404, 1999.

Sachdev, M.S., H. Kumar, S. Roop, A.K. Jain, R. Arora, V.K. Dada. Destructive ocular myiasis in a noncompromised host. *Indian J Ophthalmol* 38(4):184–186, 1990.

Sampson, C.E., J. MaGuire, E. Eriksson. Botfly myiasis: Case report and brief review. *Ann Plast Surg* 46(2):150–152, 2001.

Soulsby, E.J.L. *Helminths, Arthropods and Protozoa of Domesticated Animals*, 7th ed. Philadelphia: Lea & Febiger, 1982.

Starr, J., J.H. Pruett, J.W. Yunginger, G.J. Gleich. Myiasis due to *Hypoderma lineatum* infection mimicking the hypereosinophilic syndrome. *Mayo Clin Proc* 75(7):755–759, 2000.

Sutherst, R.W., J.P. Spradbery, G.F. Maywald. The potential geographical distribution of the Old World screw-worm fly, *Chrysomya bezziana*. *Med Vet Entomol* 3(3):273–280, 1989.

Taylor, D.B., A.L. Szalanski, R.D. Peterson II. Identification of screwworm species by polymerase chain reaction-restriction fragment length polymorphism. *Med Vet Entomol* 10(1):63–70, 1996.

Ugwu, B.T., P.O. Nwadiaro. *Cordylobia anthropophaga* mastitis mimicking breast cancer: Case report. *East Afr Med J* 76(2):115–116, 1999.

Vincent, S., J.M. Vian, M.P. Carlotti. Partial sequencing of the cytochrome oxydase b subunit gene I: A tool for the identification of European species of blow flies for postmortem interval estimation. *J Forensic Sci* 45(4):820–823, 2000.

Zayed, A.A. Studies on *Rhinoestrus purpureus* (Diptera: Oestridae) larvae infesting donkeys (*Equus asinus*) in Egypt. III. Pupal duration under controlled conditions. *Vet Parasitol* 44(3–4):285–290, 1992.

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## PENTASTOMIASES ğǟşǺÊȶǕǟ ŏǟşǻǛ

**njþƢȼ ƕĭŸǸǳ ǕƐþƑǕƗƟƐ ICD-10 88.8 B**
**ICD-10B88.8 Other specified infestations**

.(porocephaliasis, porocephalosis) ğǺƧÀÊŏǟ ŏǻ ǛɈǺÊŸǟ ğǻşǻ ʔşǼʒ :ğǺʐǻǟÀţǟ

ǦǺÊǰţǟ :ǦǼǦù ǦǼƵǛ ğǟǽ pentastomids ğǟşǺÊȶǕǟ ȸŋ ɈǺÊǺDZ ǾǺǺȽ :ğǺǼǦǦÊǟ

.Porocephalidae ğǺƧÀÊŏǟ ǦŸǼÔʐ ȸŋ ǺƵŸǭş .*Armillifer* ǦǺǼȒǶţǟş Ǜ*Linguatula*

*Porocephalus* ǦǼƧÀÊǟ :ǥǿǻǺǹ ɈǺǥǛ Ž ǺȒǺǛ ǦǺÀÎǽ ğǺĔŸǺÛǭ ɄŸǺ Àư Ǭǭ Àǭǽ Ǽęş

ǬȶÊǟş ǛdzǺÊȶǬǟ ɄŸǺÀǜ) *Leiperia* ǦǺǨǦŸǟş Ǜ(ǛèʐǬɳ Ƀʐǭ ôǿʐǬǟş ǛǦǼƩǟ ɄŸǺÀǜ)

.(ǛèʐǬɳ Ƀʐǭ ǿʐòÀÔǟş ǛǥǒǺŢŸǟ ɄŸǺÀǜ) *Raillietiella* ǦǺǨǺÀǟş (ǛèʐǬɳ Ƀʐǭ

ǿʐǛǩ ǦǟǺǥş ǺȚǺǼǺÔǩ ɉǜʐ Ǜğǟ şǺÊȶǺŸǭ ǦǼDZʐǭʐǼǦǟş ǦǼDZʐǭʐʐǿʐţǟ ÒǝǺÔǕǟ ǼǦÊǽş

[illegible] phylogenetic [illegible] (Self, 1982) [illegible] 1991 [illegible] 8 [illegible] (Guardia *et al.*, 1991) [illegible] 1989 [illegible] 2001.

**1. Infection due to *Linguatula serrata*** [illegible] .1

[illegible] (Linguatulosis, Liguatuliasis).

[illegible] 2 [illegible] 10 [illegible]

[illegible] Bovines [illegible] equines [illegible]

[illegible] 12 [illegible] 300 – 250 [illegible] 5 [illegible] nymph [illegible]

[illegible] Lazo *et al.*,) [illegible] 2001 [illegible] 1989 [illegible] .(1999

[illegible] %38 [illegible] %43.3 [illegible] .(Ehrenford and Newberne, 1981) [illegible] 10 [illegible] 4 [illegible] 10 [illegible] 2 [illegible] 8 [illegible] .(Gardner *et al.*, 1984) [illegible] (*Sylvilagus floridanus*) [illegible] 260 [illegible] %2 [illegible]

.(Andrews and Davidson, 1980)

"halzoun"

"marrara"

## [illegible]

### 2. Infection due to *Armillifer* spp. [illegible] .2

[illegible] *Armillifer armillatus* [illegible] *moniliformis* [illegible] 1996 [illegible] *A. grandis* [illegible] *agkistrodontis* [illegible]

[illegible] *crotali* [illegible] (rattlesnake [illegible]).

[illegible] *agkistrodontis* [illegible] %22.5 [illegible] %8 [illegible] %1.4 [illegible] %45.4 [illegible] 2001 – 1989 [illegible] 8 [illegible]

[illegible] *agkistrodontis* [illegible] 214 [illegible] %1.4 [illegible] (Nazeh *et al.*, 1996).

[illegible] (12 – 1 [illegible] 18 [illegible] (Obafunwa *et al.*, 1989) [illegible] 2 – 1 [illegible] 10 [illegible] (Mulder, 1989).

[illegible]

[illegible] Self,) Viperidae [illegible] Boidae [illegible] (1982 [illegible]

[illegible] crotali [illegible] (1991) [illegible]

[illegible]

## [illegible]

Andrews, C.L., W.R. Davidson. Endoparasites of selected populations of cottontail rabbits *(Sylvilagus floridanus)* in the southeastern United States. *J Wildl Dis* 16(3):395–401, 1980.

Ehrenford, F.A., J.W. Newberne. An aid to clinical diagnosis of tongue worms *(Linguatula serrata)* in dogs. *Lab Anim Sci* 31(1):74–76, 1981.

Gardiner, C.H., J.W. Dyke, S.F. Shirley. Hepatic granuloma due to a nymph of *Linguatula serrata* in a woman from Michigan: A case report and review of the literature. *Am J Trop Med Hyg* 33(1):187–189, 1984.

Guardia, S.N., H. Sepp, T. Scholten, I. Morava-Protzner. Pentastomiasis in Canada. *Arch Pathol Lab Med* 115(5):515–517, 1991.

Jones, D.A., J. Riley. An ELISA for the detection of pentastomid infections in the rat. *Parasitology* 103(Pt 3):331–337, 1991.

Lazo, R.F., E. Hidalgo, J.E. Lazo, *et al*. Ocular linguatuliasis in Ecuador: Case report and

morphometric study of the larva of *Linguatula serrata*. *Am J Trop Med Hyg* 60(3):405–409, 1999.

Mulder, K. Porocephalosis. *Dtsch Med Wochenschr* 114(49):1921–1923, 1989.

Nzeh, D.A., J.K. Akinlemibola, G.C. Nzeh. Incidence of *Armillifer armillatus* (pentastome) calcification in the abdomen. *Cent Afr J Med* 42(1):29–31, 1996.

Obafunwa, J.O., A. Busuttil, E.J. Nwana. Sudden death due to disseminated porocephalosis—a case history. *Int J Legal Med* 105(1):43–46, 1992.

Self, J.T. Pentastomiasis. *In*: Hillyer, G.V., C.E. Hopla, section ed. Section C, Vol. 3: *CRC Handbook Series in Zoonoses*. Boca Raton: CRC Press; 1982.

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# TICK INFESTATIONS ǫƐƥƨǁƑƓ ƖƐƥƑƪƗƟƲƐ

## ǌƥƢƈ ƕĭƳǋǆ ƖƐƥƑƪƗƟƐ ICD-10 B88.8
## ICD-10 B88.8 Other specified infestations

ŷ*Argas* *ÿäƎöä* ꞉ âÅADZɉä ȸŋ ǦÅŸϘƯ ƫäʐφǘ ɄȽ ğäǿÅÎϘǵɽä ȻǾȽ Ōŋäǯɜ ꞉ğÅGGÊöä *Haem-* *Ǧŋʐï ÄÖä* ŷ*Dermacentor* *ǼŸɛä Âǹǻ* *Boophilus* *ȄŸȞöä* ŷ*Amblyomma* *êʐȶ8Ǽöä* ŷ*Ornithodoros* *ƘÛöä ȟắɼ* ŷ*Ixodes* *ắʐGŸöä* ŷ*Hyalomma* *ƙȞöä ɄDZÅDZÂöä* ŷ*aphysalis* ÄφÅǼǵǘ ÀÎϘƷ Æȩ ȸÒö ÛĞƎɜʐφ ğäắäÅÖæ ɉÅÊφqä ÀφǖϘÅ ɼ ·*Rhipicephalus* *âǗÄöä ɄǵşÄŋ* ·(4 ȯşÆɛä) ǦÅŸϘÅţä ʔşÆȞöä ŌÖÅǩ ʔÀǹǘ ğÅÅǿÅÖʐ ȸŋ ğäắäÅÖæ

ǦÅÄü ğäắäÅȩ ȸŋ ǦÅöǘţä ꞉Argasidae ğÅƎŋäƎöä ǦŸƎÔʐ ꞉ƙϘɜʐȶƒ БǗ ğäắäÅÖöä ȴÊÖǩ ǦŸƎÔʐş ·ɄǿÅÛGöä ǴÛÊöä ʔŸɜ Ǧɜʐȑʐŋ ȴÅŸö öäÂDZǗ ɜŋ ǦÅÆŸDZ ǦʐÅȞŸæ ǵÅÛ8ŋ ÄȾŋÅÊDZǗ ÅȽǿʐȾş ʔŸɜ ŌÒÎöä ǦƎèÄǩ ǵÆƎŸDZ ȸŋ ȴǺȒǩ ÅT ğäắäÅȩ ȸŋ ǦÅöǘţä ꞉Ixodidae ğÅÅắʐGŸöä ɄÛ8Å ƙǵ Ž ÛǿʐȭǾöä Ž ÄȾȚöä ŌŋÅȭ âÄϘöä ɄÛ8Å ·ǦƎŋÅŋɉä ǦÅÄȾÅöä ʔŸɜ ȴÅöä öäÂDZǗş ŏÅÅφǘ engorge ŌÅȞϘöÅæ ÄȾŋÅÊDZɉ ǴȶÊƎö ϙÅφqä Ž ÄȾȚöä ȸŋ ǕÖʐ ɄŋÅŋɉä ƸÔÅöä ·ÄȾŋÅȞü

Û*ƘÛöä ȟắɼ* ȄÅɛ ǦȞæÅϘöä ǕÖʐ ɄȽ ɃÀÎGöä ǢÛöä Ž ǦƎƵɉä ğäæ ǦÅÄÛöä ğäắäÅÖöä *Borrelia* *ǦƎȞDZäÄöä ȼƎöǿʐGöä* ȸŋ Ƀǿäǿæȸɜ ǦƤÅÅöä ɉÅÊφqä Ž ǦÊȭÅÅöä ʔȶΣä ŌÖÅǩ ɄǿϘöäş ʔÀǹɉä ǿʐƎÛöäş ÿÅȶΣäş ǯÅDZǼöä Ž ÿäƎöä ǦòÅǹş Û*ÿäƎöä* ȸŋ ǵǼÅǼɜ ƫäʐφǘş Ǘ*recurrentis* ǢƎÔǩ ɄǿϘöä *ƘÛöä ȟắɼ* ƫäʐφǘ ȊƎȞǩ·ɄȞƎGÛöä ÄȾÅʐϙ Æϴ ɼ ÅŋÆÅɜ ɉÅÊφqä ȴDZÅő ɄǿϘöä

[illegible]

| [illegible] | [illegible] | [illegible] |
|---|---|---|
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] triguttatum |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |

| | | |
|---|---|---|
| *ĞÀĶĞÆÊöä ĞÆÊÒÒÀÄöä* | ÅÆèÜ | *Ğŋζ ìÄÕöä ţäζφÜ* |
| *ĞÀĶζøşÆɖøζĞöä ¢ÆöøζĞöä* | ƙÔöä āζÀDZ | *ƙρõζ Îöä ğää Ğŋζ ìÄÕöä* |
| *ĞÀøζφζÒöä ĞÆÊÒÒÀÄöä* | ĞÆäζÀƨä ÅÆÕÀÄζÜ | *ĞÆĦĞÊöä Ğŋζ ìÄÕöä* |
| ğ ÅäÅƬϘöɍ gÀÀÔţä ğ ÅèşĶÀöä ĞöζÕÀţä ğ ÅèşĶÀöÅä ȟÅŋÆöä ğ ÅÆŸÔÀţÅä | ÆÀTä | *õäζ ìɟä ĞÀφúţä Ğŋζ ìÄÕöä* |
| *ĞÀøζφζÒöä ĞÆÊÒÒÀÄöä* | ĞÆäζÀƨä ÅÆÕÀÄζÜ | *ɃÄÔţä ƙĦöä ɄDZÅDZÂöä* |
| ğ ÅÆȶĦŊŸö ĞÀşÅÆÀĞöä ğ ÅèşĶÀöä åäÀÕöÅä ĞöζÕÀţä ĞÆζÂøÀöä | ĞÆäζÀƨä ÅÆÕÀÄζÜş ĞÆäøşɟä ÅÆèÜ | *Ƃζ ȑÅφɟä ƙĦöä ɄDZÅDZÂöä* |
| ğ ÅÆȶĦŊŸö ĞÀşÅÆÀĞöä ğ ÅèşĶÀöä åäÀÕöÅä ĞöζÕÀţä ĞÆζÂøÀöä | ȯÅŋζÔöä | *excavatum* *ƙĦöä ɄDZÅDZÂöä* |
| ğ ÅÆȶĦŊŸö ĞÀşÅÆÀĞöä ğ ÅèşĶÀöä åäÀÕöÅä ĞöζÕÀţä ĞÆζÂøÀöä | ȯÅŋζÔöä | *impeltatuum* *ƙĦöä ɄDZÅDZÂöä* |
| ğ ÅÆȶĦŊŸö ĞÀşÅÆÀĞöä ğ ÅèşĶÀöä åäÀÕöÅä ĞöζÕÀţä ĞÆζÂøÀöä | ĞÆäζÀƨä ÅÆÕÀÄζÜş ĞÆäøşɟä ÅÆèÜ | *ɄÎŋÅTä ƙĦöä ɄDZÅDZÂöä* |
| ā ÅƬϘöɍ gÀÀÔţä ğ ÅèşĶÀöä ĞöζÕÀţä ğ ÅèşĶÀöÅä ȟÅŋÆöä ğ ÅÆŸÔÀţÅä | gÆĦϘţä ğ ÅÀɍζöäş äÆÀõ āÀɖ | *cookie* *Ʉõζ Òöä åζĞŸöä* |
| *ĞϘÆζøşÆɖøζĞöä ĞÆöøζĞöä* | ƙÔöä āζÀDZ | *ɄøĞÆĞΣä åζĞŸöä* |
| *ĞÆöäÀϘèɟä ĞÆÊÒÒÀÄöä* | ÅÆöäÀϘèÜ | *ĞöÅTä ɄÕŸΣä åζĞŸöä* |
| ȟÅŋÆöä ā ÅƬϘöä âşĶζ åäÀÕöÅä ȯζÕÀţä Ƀζ Æèɟä | ȷ ÅäÅÆöä | *ovatus* *åζĞŸöä* |
| *ĞÀĶζøşÆɖøζĞöä ĞÆöøζĞöä ĞÀĶζøşÆɖøζĞöä ĞÆöøζĞöä* | gÆĦϘţä ğ ÅÀɍζöä āÀɖ | *ɃåÅTä åζĞŸöä* |
| *ĞȶƬÀöä* "Ğȝζȶ Õä ĞÆÅÆöÀÀÜ" (ĞȶĦĞŸö ĞĞɟä) *Phagocytophile* | ÅÆèşø āÀɖ ƙÔöä ȯÅƨ ÜÀÆèÜ ĞÆöäøÆÆÀöä | *ʅŸöä Ʉęζ Àöä åζĞŸöä* |

| | | |
|---|---|---|
| āÀŦǫôɍ gÀÀÔţä ğÀèşƘÀöä | | |
| ĞözÖÀţä ğÀèşƘÀöÀæ ȟÀŋÆöä | | |
| ğÀÆŸÔÀţÀæ | | |
| Û*divergens* gÆʒÀĢţä ĞÆÊæÀĢöä | Àæşøşǔ | ɄʒşÀʅä áʐĢŸöä |
| ÛĞÀƘʐøşÆʠøʐĢöä ĞÆöøʐĢöä | | |
| ·ĞŧŦÀöä Ğʒʐŧ Öä ĞÆʅÀǔ | | |
| āÀŦǫôɍ gÀÀÔţä ğÀèşƘÀöä | | |
| ĞözÖÀţä ğÀèşƘÀöÀæ ȟÀŋÆöä | | |
| ğÀÆŸÔÀţÀæ | | |
| ĞÆöøʐĢöä ÛĞÀƎÓȞöä ĞÆÊæÀĢöä | gÆɄǫţä ğÀɍʐöä āÀʠş Ùèş | ɄÀǫÓöä áʐĢŸöä |
| ţäʐǫǔ ÛĞÀƘʐøşÆʠøʐĢöä | | (ƗÆŋäÆöä áʐĢŸöä) |
| (ĵ)ĞÆÁÆöÀǫä | | |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | gÆɄǫţä ğÀɍʐöä | ɄÊŋÀŦä ƘÛöä ȟáɍ |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | ÀÆÕÀÀzǔ | ɄøǫÀĢèqä ƘÛöä ȟáɍ |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | ÀÆÕÀÀzǔ | ɄøǩÀæʐţä ƘÛöä ȟáɍ |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | ĞÆÀÆǩŸöä ÀÓÀÀŋǔ | ŞÀöä ƘÛöä ȟáɍ |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | ĞÆÀÆǩŸöä ÀÓÀÀŋǔ | ɄǹɍÀǫöä ƘÛöä ȟáɍ |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | Ùèşɟä ȧÀÎöä | ɄøǫäʐöʐÛöä ƘÛöä ȟáɍ |
| ĞÆȞǅäÀöä ĞÆöøʐĢöä | gÆɄǫţä ğÀɍʐöä | ɄøǫÀÓøʐǫöä ƘÛöä ȟáɍ |
| ĞÀøʐǫʐÓöä ĞÆÊǫÓÀÀöä | ĞÆæʐÀƨä ÀÆÕÀÀzǔ | ɃÆəÀÂöä âǕÀöä Ʉǵ şÀŋ |
| ĞÆÁÆöÀǫä ţäʐǫǔ | ĞÆæʐÀƨä ÀÆÕÀÀzǔ | ɃʐŋÆöä âǕÀöä Ʉǵ şÀŋ |
| ĞÀøʐǫʐÓöä ĞÆÊǫÓÀÀöä | Ùèʐǫţä ȒÆæɟä ÀɄĢöäş | |

·ğÀĢǫq ǯÀǫʒ (ĵ)

ǰǫÀÀş ÛgÀìÀĢŋ ÿÀȞÛöä ÆȞæ ʅè [11] ɂøǫǵş ÛÿÀȞÛöä Ōĝę ɨʐù ʅŋ [8 – 7] ǫÀǫqä ȄÆŎǩ ĞȒÆæ [2.000 – 500] ƃÀƤǔ ȯÆȟŋş Û(ÿʐÀ ÆȞæ ÿʐÀ) ƙŋʐÀ Ōõ ĞȒÆæ [100 – 20] ȡŋ ğÀʒʐŧf ĞÆèäÆè ğÀęÀÀ ÀŦŢǩş ÿ º[30] gøäÀǵ ĞǄøÆæ ÿÀÀǔ [8] ƃäʐǵ ÆȞæ ôʐÆĢöä ȄÖÀǩ ·ÀŧȞöä Ōõ Ž

[illegible] Hexepodal [illegible] 4 [illegible] 5 [illegible] 4 [illegible] 25 – 20 [illegible] 15 – 10 [illegible] 40 [illegible] 56 [illegible] 9 [illegible]

[illegible] 1 [illegible] 10 [illegible]

[illegible] 4 [illegible] 4 [illegible]

ğÀÆŸÆÀü ƱəÀÀƷϘèä ŎȮÎæş ÛĞÆÌÀƫä ğÀÆŸÆÀü ƱŁ *ÈŸĤöä* ÈÀDZ ğäåäÀę ·ÀÆŌÀÀƶÜ ɁøÀƢò ·ĞÆəÀÀƷϘèä ĞÀÀÎĞöä ɁşÆĤöä ·ɃÀĤöä Ōõ Ž ĞöÆϘĤƫäş ĞÀøäÆƫä ĘüÀÀƫä Ž ÀÎϘÀǩ ːɁÀǹÜ ÆÌäƺ ĘüÀÀƫä Ž ÀÎϘÀǩş ÛgƘĞȮöä ğÀÆÀÆǯöäş ôøäƶŌöä ğÀÆŸÆÀü ƱŁ *ÆŸɜä ÂǹÀş* ÈÀDZ ğäåäÀę gƘ8Ôöä ğÀÆÀÆǯöä ğÀÆŸÆÀü ƱŁ *ǦƞƶÌÀŐöä* ÈÀDZ ğäåäÀę ·äÆÀõ ƂÜ ĞÆÀÆǨŸöä ÀȮÀÀƞɉ ĞÀøäÆƫä ğÀφäƶÆΣä ğÀÆŸÆÀü ƱŁ *ƙĤöä ƱDZÀDZÂöä* ÈÀDZ ğäåäÀę ·ɃÀĤöä Ōõ Ž gåƶDZƶƞş ÛøƶÆÛöäş ÈÀDZ ğäåäÀę ·ɨÀƨ 45 ô ÀĤöä Ùǹ ǨƠ ĆÆŐöä ɃÀĤöä Ž gåƶDZƶƞş ÛƱÊƏø ŎȮÎæ ĞÀDZäÆöä ·ɃÀĤöä Ōõ Ž ÀÎϘÀǩş gƘĞȮöäş gƘ8Ôöä ğÀÆÀÆǯöä ƂÜ ĞƶÀȓɋÀæ ÛøƶÆÛöä ğÀÆŸÆÀü ƱŁ åƶĞŸöä *âÜÀöä ƱǵşÀƞ* ÀÎϘÀÀ ÛĞÆæşøşɉäş ĞÆŌÀÀƶɉä ğÀφäƶÆΣä ȸƞ åÆĤö ğäåäÀę âÜÀöä ƱǵşÀƞ ·ɃÀĤöä Ōõ Ž *Ƀƶƞåöä*

Ȁƺƶφ 22ş (*ƘÛöä ȟåɍş ÛƴäƎöä*) ğÀÆƞäƎöä ȸƞ Ȁƺƶφ 12 ȸƞ øÀÎϘǵɍÀæ ȷÀÊφɋä āÀÔÀ Æę *ƱDZÀDZÂöä* ȸƞ 2ş *ǦƞƶÌÀŐöä* ȸƞ 3ş *ÛÆŸɜä ÂǹÀφ* ȸƞ 7ş *êƶƭ8Æöä* ÈÀDZ ȸƞ 4) ğÀÀåƶĞŸöä ȸƞ 44 ÆDZş ːgÆƢϘƫä ğÀÀɍƶöä Ž ·(Estrada-Pena and Jougejan, 1999) (*åƶĞŸöä* ȸƞ 6ş *ƙĤöä* ȷÜ ɍÜ ·ĞĞŸÔöä ğäåäÀŐöä ȸƞ 33ş ĞÆŸöä ğäåäÀŐöä ȸƞ Ȁƺƶφ 11 ːȷÀÊφɋä Ž ğäåäÀŐöä ȸƞ Ȁƺƶφ *êƶƭ8Æöä* ·gÆƢϘƫä ğÀÀɍƶöä Ž ĞŸòÜ ȀƺäƶφÜ ǨÊÆöş ÆŸĞöä ǯøÀǹ ÆÊϘõä Ƃşɉä ȸƞ 4 *åƶĞŸöäş ÛȯÆĞϘƫä ÆŸɜä ÂǹÀφ* ÜƱÊŸüɉä ÙÆǂä āÀęş āƶÀɜä Ž ȀƺƶÆÌ ÀǯõɉäƶŁ *ƱȮÀÀƞɉä* ÛɃåÀTä ÙÆǂä āÀę *ɃåÀTä åƶĞŸöä* ÛāÀ8öä Ž ƱøφƶèøÆφɉä ÆŸɜä ÂǹÀφ ÛȧÀÎöä Ž *ƱÀϘȮöä* ĞÀɍş Ǩ8ŸæÜ ·(Merten and Durden, 2000) ƱÊƏø ŎȮÎæ āÀ8öä Ž *ƘÛöä ȟåɍ* ƫäƶφÜş *êƶƭ8Æöäş* (*Otobius megnini* ȷƶϘŌöä) ȸƺ ĞƤÀφ ĞÀÀÎæ ğäøÀÎϘǵä ȸƺ ĞÆöÀƭÎöä ÀÆÆöşøÀõ *åƶĞŸöäş* (cookie *ƱõƶȮöä* *åƶĞŸöäş* (leporispalustris *ǦƞƶÌÀŐöäş* maculatum *ƷŐæɉä* åƶDZƶƫä ƫƶÀöä äØT ȯşɉä ǯäƶƭÀöä ȷƶϘŌöä ȷÀõ ·*ɃƶƞÆöä âÜÀöä ƱǵşÀƞş* dentatus *ƱøÀÆöä* ·(Harrison *et al.*, 1997) ĞÀè 50 ȯŸǹ ĞÆöÀƭÎöä ÀÆÆöşøÀõ Ž

ȸõÀƞɉä ÆǵÜ Ž ·ƱøφÆǵÜ øÀÎϘǵɍä ȷɉ ȷÀÊφɋä Ž øÀÎϘǵɍä ÀǩäƶǨ ÀÀÆŐǨ ÆĤÔöä ȸƞ åäÀę 1.3 ÙèƶϘƞ ƺƞ øÀÎϘǵɍÀæ ÆæÀÔƞ ÆÔÅÌ 240 õÀÆŁ ȷÀõ ː1996ş 1995 ƙæş ÛÀÆöÀÛÀÙæ *ƱǵşÀƞ* %10ş øäƶüɉä Ōõ Ž *ƱƺşÀʅä åƶĞŸöÀæ* ÆÀÎϘƮ ȴƮÀƞ %89 ȷÀõ ÛÒÅÌ ŎȮö

[illegible] %17 [illegible] %1 [illegible] %24 [illegible] %22 [illegible] %26 [illegible] 1.000 [illegible] 5 [illegible] (Manfredi *et al.,* 1999) Felz and) [illegible] 1.3 [illegible] 521 [illegible] 1.384 [illegible] %2.2 [illegible] (Durden, 1999 [illegible] 1995 [illegible] 1955 [illegible]

[illegible] (Barriga, 1999) [illegible] 100 [illegible] *testudinarinm* [illegible] (Nakamura-Uchiyama *et al.,* 2000) [illegible] pustule [illegible] *megnini* [illegible] otocariasis [illegible] (Indudharan *et al.,* 1999)

[illegible] (Veraldi *et al.,*1998) [illegible] *A. reflexus* [illegible] (Basset-Stheme *et al.,* 1999) [illegible] (Lavaud *et al.,* 1999) [illegible]

.(Moneret-Vautrin *et al.*, 1998) *ricinus* [illegible] [illegible] [20] [illegible] *holocyclus* [illegible] .(Barriga, 1997) [illegible] *persicus* [illegible] (1997) [illegible] Dworkin *et*) 1996 [illegible] 1946 [illegible] 33 [illegible] .(*al.*, 1999

[illegible] (1995) [illegible] (1998) [illegible] .2000 [illegible] 4 [illegible]

[illegible] Worry [illegible] 70 [illegible]

[illegible] theileriosis [illegible] babesiosis [illegible] anaplasmosis [illegible] (hydropericadium) [illegible] cowdriosis [illegible] .(Uilenberg, 1997)

[illegible]

[illegible] [1] [illegible] %70 [illegible]

[illegible] acaricides [illegible]

[illegible] (Samish and Rehacek, 1999) [illegible] microplus [illegible] fertility [illegible] %75 [illegible] Jongejan) [illegible] sensors [illegible] (1999 .(Thomson and Connor, 2000) pests [illegible] boot [illegible] .permethrin [illegible] .(Mafong and Kaplan, 1997) [illegible]

[illegible]

Barriga, O.O. Evidence and mechanisms of immunosuppression in tick infestations. *Genet Anal* 15:139–142, 1999.

Barriga, O.O. *Veterinary Parasitology for Practitioners*, 2nd ed. Edina: Burgess International Group; 1997.

Basset-Stheme, D., P. Couturier, J. Sainte-Laudy. Urticaire géante par piqure d'*Argas reflexus*: à propos d'un cas. *Allerg Immunol (Paris)* 31:61–62, 1999.

Benenson, A.S., ed. *Control of Communicable Diseases in Man*, 16th ed. An official report of the American Public Health Association. Washington, D.C.: American Public Health Association; 1995.

Blankenship, M.L. Mite dermatitis other than scabies. *Dermatol Clin* 8:265–275, 1990.

Dworkin, M.S., P.C. Shoemaker, D.E. Anderson. Tick paralysis: 33 human cases in Washington State, 1946–1996. *Clin Infect Dis* 29:1435–1439, 1999.

Engel, P.M., J. Welzel, M. Maass, U. Schramm, H.H. Wolff. Tropical rat mite dermatitis: Case report and review. *Clin Infect Dis* 27:1465–1469, 1998.

Estrada-Pena, A., F. Jongejan. Ticks feeding on humans: A review of records on human-biting Ixodoidea with special reference to pathogen transmission. *Exp Appl Acarol* 23:685–715, 1999.

Felz, M.W., L.A. Durden. Attachment sites of four tick species (Acari: Ixodidae) parasitizing humans in Georgia and South Carolina. *J Med Entomol* 36:361–364, 1999.

Flynn, R.J. *Parasites of Laboratory Animals*. Ames: Iowa State University Press; 1973.

Grattan-Smith, P.J., J.G. Morris, H.M. Johnston, *et al.* Clinical and neurophysiological features of tick paralysis. *Brain* 120(Pt 11):1975–1987, 1997.

Harrison, B.A., B.R. Engber, C.S. Apperson. Ticks (Acari: Ixodida) uncommonly found biting humans in North Carolina. *J Vector Ecol* 22:6–12, 1997.

Indudharan, R., M. Ahamad, T.M. Ho, R. Salim, Y.N. Htun. Human otoacariasis. *Ann Trop Med Parasitol* 93:163–167, 1999.

Jongejan, F. Integrated control of ticks and tick-borne diseases. *Parassitologia* 41(Suppl 1):57–58, 1999.

Lavaud, F., F. Bouchet, P.M. Mertes, S. Kochman. Allergie aux piqures d'insectes hematophages: manifestations cliniques. *Allerg Immunol (Paris)* 31:311–316, 1999.

Manfredi, M.T., V. Dini, S. Piacenza, C. Genchi. Tick species parasitizing people in an area endemic for tick-borne diseases in north-western Italy. *Parassitologia* 41:555–560, 1999.

Mafong, E.A., L.A. Kaplan. Insect repellents. What really works? *Postgrad Med* 102:63, 68–69, 74, 1997.

McKeever, P.J., S.K. Allen. Dermatitis associated with *Cheyletiella* infestation in cats. *J Am Vet Med Assoc* 147:718–720, 1979.

Merten, H.A., L.A. Durden. A state-by-state survey of ticks recorded from humans in the United States. *J Vector Ecol* 25:102–113, 2000.

Miller, W.H. *Cheyletiella* infestation. *In*: Parish, L.C., W.B. Nutting, R.M. Schwartzman, eds. *Cutaneous Infestations of Man and Animal*. New York: Praeger; 1983.

Moneret-Vautrin, D.A., E. Beaudouin, G. Kanny, L. Guerin, J.F. Roche. Anaphylactic shock caused by ticks (*Ixodes ricinus*). *J Allergy Clin Immunol* 101(1 Pt 1):144–145, 1998.

Nakamura-Uchiyama, F., Y. Komuro, A. Yoshii, Y. Nawa. *Amblyomma testudinarium* tick bite: One case of engorged adult and a case of extraordinary number of larval tick infestation. *J Dermatol* 27:774–777, 2000.

Paradis, M. Mite dermatitis caused by *Cheyletiella blakei*. *J Am Acad Dermatol* 38(6 Pt 1):1014–1015, 1998.

Pecheur, M., H. Wissocq. Un cas de gale due à *Cheyletiella parasitovorax* chez un chat. *Ann Med Vet* 125:191–192, 1981.

Samish, M., J. Rehacek. Pathogens and predators of ticks and their potential in biological control. *Annu Rev Entomol* 44:159–182, 1999.

Thomson, M.C., S.J. Connor. Environmental information systems for the control of arthropod vectors of disease. *Med Vet Entomol* 14:227–244, 2000.

Uilenberg, G. General review of tick-borne diseases of sheep and goats world-wide. *Parassitologia* 39:161–165, 1997.

Veraldi, S., M. Barbareschi, R. Zerboni, G. Scarabelli. Skin manifestations caused by pigeon ticks (*Argas reflexus*). *Cutis* 61:38–40, 1998.

Walker, D.H. Tick-borne infectious diseases in the United States. *Annu Rev Public Health* 19:237–269, 1998.

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## TUNGIASIS [illegible]

## ([illegible]) [illegible] ICD-10 B88.1

## ICD-10 B88.1 Tungiasis (sandflea infestation)

[illegible] jigger flea ([illegible]) [illegible] Chigoe [illegible] .dermatophiliasis [illegible] sand flea [illegible] burrowing flea [illegible] (*Sarcopsylla* [illegible]) *Tunga* [illegible] ovigerous [illegible] *penetrans* [illegible] pronotal [illegible] 1) [illegible] genal combs [illegible] 5) [illegible] epidermis [illegible] excrescence [illegible] 4 – 3 [illegible] 14 – 10 [illegible] pupae [illegible] 14 – 10 [illegible] 200 [illegible]

[illegible] .(oviposition) [illegible]

[illegible] native [illegible] .1732 [illegible] 1526 [illegible] 1872 [illegible] .(Connor, 1976) [illegible]

[illegible] .(Lowry *et al.*, 1996) [illegible] 44 [illegible] (%25) 11 [illegible] (Nte and Eke, 1995) [illegible] 280 [illegible] (%22.5) 49 [illegible] (Obengui, 1989) [illegible] (Chadee, 1994) [illegible] 102 [illegible] (%31.4) 32 [illegible] (Chadee, 1998) [illegible] 1.307 [illegible] (%20.4) 267 [illegible] 1989 [illegible] 2001 [illegible] 6 [illegible] 2 [illegible] 4 [illegible] 5 [illegible] .(Sanusi *et al.*, 1989) [illegible] 14 [illegible] 16 (1995) [illegible]

[illegible] (1989) [illegible] 1948 [illegible]

[illegible] 373 [illegible] %41.5 [illegible] 14 – 6 Ade-Serrano and Ejezie,) [illegible] .(1981

[illegible] (Cooper, 1967; Verhulist, 1976) [illegible] .(Rietschel, 1989) [illegible]

[illegible] interdigital [illegible] .crateriform [illegible] 7 [illegible] (A [illegible]

[illegible] 11 [illegible] .(Chadee, 1998) [illegible]
.(Obengui, 1989) [illegible] 44 [illegible]
[illegible] 49 [illegible]
[illegible]
[illegible] .(Nte and Eke, 1995) [illegible]
[illegible]
[illegible] 102 [illegible]
6-5 [illegible] 9 [illegible] 55 [illegible] 14 [illegible] 10 [illegible] 9 – 5 [illegible]
.(Chafee, 1994) [illegible] 12 [illegible]
[illegible]
Cooper) [illegible]
[illegible] agalactia [illegible] .(1967
[illegible]
Verhulst,) [illegible]
.(1976

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]

[illegible] pesticides [illegible] chitin [illegible] [70]

[illegible]

## [illegible]


Ade-Serrano, M.A., G.C. Ejezie. The prevalence of tungiasis in Oto-Ijanikin village, Badagry, Lagos State, Nigeria. *Ann Trop Med Parasitol* 75(4):471–472, 1981.

Caumes, E., J. Carriere, G. Guermonprez, F. Bricaire, M. Danis, M. Gentilini. Dermatoses associated with travel to tropical countries: A prospective study of the diagnosis and management of 269 patients presenting to a tropical disease unit. *Clin Infect Dis* 20(3):542–548, 1995.

Chadee, D.D. Distribution patterns of *Tunga penetrans* within a community in Trinidad, West Indies. *J Trop Med Hyg* 97(3):167–170, 1994.

Chadee, D.D. Tungiasis among five communities in south-western Trinidad, West Indies. *Ann Trop Med Parasitol* 92(1):107–113, 1998.

Connor, D.H. Tungiasis. *In*: Binford, C.H., D.H. Connor, eds. Vol. 2: *Pathology of Tropical and Extraordinary Diseases*. Washington, D.C.: Armed Forces Institute of Pathology; 1976.

Cooper, J.E. An outbreak of *Tunga penetrans* in a pig herd. *Vet Rec* 80(11):365–366, 1967.

Lowry, M.A., J.L. Ownbey, P.L. McEvoy. A case of tungiasis. *Mil Med* 161(2):128–129, 1996.

Matias, R.S. Epidemia de tungiase no Rio Grande do Sul. *Rev Soc Bras Med Trop* 22(3):137–142, 1989.

Nte, A.R., F.U. Eke. Jigger infestation in children in a rural area of Rivers State of Nigeria. *West Afr J Med* 14(1):56–58, 1995.

Obengui. La tungose et le tetanos au C.H.U. de Brazzaville. *Dakar Med* 34(1):44–48, 1989.

Rietschel, W. Beobachtungen zum Sandfloh (*Tunga penetrans*) bei Mensch und Hund in Franzosisch Guayana. *Tierarztl Prax* 17(2):189–193, 1989.

Sanusi, I.D., E.B. Brown, T.G. Shepard, W.D. Grafton. Tungiasis: Report of one case and review of the 14 reported cases in the United States. *J Am Acad Dermatol* 20(5 Pt 2):941–944, 1989.

Verhulst, A. *Tunga penetrans (Sarcopsylla penetrans)* as a cause of agalactia in sows in the Republic of Zaire. *Vet Rec* 98(19):384, 1976.

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## ZOONOTIC SCABIES ƥqT ǅǁ Ĭ øǆNjĭΘǁ ƒƥɯǁ

**ICD-10 B86 Scabies ƒƥɯǁ ICD-10 B86**

Ûsarcoptic acariasis ğÀŋøÀÖ ȸ3 ȴDZÀÀ ȴŊΣ ŏáá Ûmange ɉǟʕΣ ā ÀDZ ˸ğÀζáâÀţ .scabiosis ā ãÀƨ Ûseven year itch ǦǶǦÊ ğãζÀÊ ǦÒǵ Ûsarcoptic itch Ǧŋ øÀÖ ǦÒǵ

*Sarcoptes scabiei* ǦÀÎ ā Àȑ *ǦƹÀƨ Ǧŋ øÀÖ* ζŁ ɃÀÎ ā Àƨ Ōŋ3 ˸ğÆǦǦÊ 350 x ÀQŋşÀȮŋ 450 ʔøQǵ ʔǰɉ ȄÆÕǩ ɃζȒ mite âζè ɄŁş Ûvar. *hominis* ÆÆÔǩ āşÀȑ ţζÀ ǿT ·ÀQŋşÀȮŋ 200 x ÀQŋşÀȮŋ 240 ʔøQǵ ÀÕØş ÛÀQŋşÀȮŋ ʔŸ3 .(Elgart, 1990) ğÆÀǹζ Ƃ ğÀŋÆÕţ ȸŋ – ÀÀÕǩ ğÆÆǯ ȸŋ 3ζφ 40 øÀÎQǵɼÀ ţζφ ʔŸ3 ÀÎQʒ ɉ ʒÛÊ ȐǶ ɉ ȴȡø ÛKǦ ŌȮÎ ɃζǰŸ Ʉ3ζφ āÀȑ Ōõ ˙ÿζƫǶ ȸŋ ÂÆƫQŸ ǦŸÀę Ƙȡ ǦÀŸQÅţ ŏÀζQɉ ʔŸ3 āşÀȒ ǨφÀõ Àţş ·ÀQǘŋ Àȑ Àŋ ÆǦÊş ʔÀǹ ʔŸ3 ·ÙÕζ ɃƐơ øÀǦQǹ ʔŸ3 ǿÀƫQ3 Ûɉɉ ʔøQǵ ÛȴÀ ÀȚζÀǶQȅ ɉζ ÛǦǅζǿζζøζţ ǦǵÀÀ ɉş ÛƙÀŸQƯ ƙÀȑ Ƃ ɄƫQǩ ÀÀàÀȴş ÀÎ Ž *ǦŋøÀÕ* ɉ (1995) ζȉş Ƃ ôÀQζ ˸Õõ ǦÆDZş (Arlian *et al.*, 1996) ǦDZζȯşƘȅ ȧşÀζ ğǼDZş ·ƵŸQƯ ţζφ āŸÒ âζè ǦŸȍ ÀǯõÙ Ǧȑ øÙ Àζζ Æę Àŋ ǿŁş ÛÕęɉ ʔŸ3 āşÀȒ ȐǶ Ž (Walton *et al.*, 1999) ·ÀȚÆ ĘÀÀÀQŸ

*ğÀÀȚȚ* ɄŁ ɉÊφqǟ Ž øÉÔţ ɄøφζɁǵ ÀÀDZ ÆǦÊǩ ɄøQ ʔÀǹɉ âζÊ ţζφ ā ÀDZ ÆǦÊǩ ɄøQş Sarcoptidae ÿøζÕ ǦŸÔζ ȸŋ ÀȒÙ ɄŁş *Notoedres cati ǦÀȚ* ˸ŌÔζ ÀȚφ) ÆφøɉşÙÛÕş āŸÒ âζè ɄŁş Û*Cheyletiella ǦŸQŸȴ*ş ·ÙÛÕ Ž âÙÀ *Otodectes cynotis* ɉ şÆǦ ˸ÈÒǶ ʔŸ3ş ·(ɄøφζɁǵ ŌȯÙ ȸŋ âζÊ ȸ3 ȴDZÀÀ ÆŸƨ ā ÀȚQ .(Park *et al.*, 1996) ɉÊφqǟ ÆÆÔ ɼ ÛÆŸÒ ɉǽ ā ÀDZ ÆǦÊǩ ɄøQ Û(Psoroptidae ǦŸÔζ)

[illegible] furrows [illegible] 3 – 2 [illegible] scales [illegible] protonymph [illegible] tritonymphs [illegible] (5 – 0.5 [illegible]) tunnel [illegible] 14 – 10 [illegible]

[illegible] 17 [illegible]

[illegible]

[illegible] *S. ovis* [illegible] *S. equi* [illegible]

[illegible] 30 [illegible]

[illegible]

[illegible] cheyletiellosis [illegible] notoedric [illegible] (Beck, 1996; Mitra *et al.*, 1993; Parish and Schwartzmann, 1993) [illegible] wombat [illegible] (1999) [illegible]

[illegible] 19 [illegible] 42 [illegible] Mitra *et al.*,) [illegible] 48 [illegible] (1993 [illegible] (%65) 30 [illegible] (Chakrabarti, 1990) [illegible] (%67) 20 [illegible] (Fontaine, 2000) contagion [illegible] 312 [illegible] %25 [illegible] (1996) [illegible] (1996) [illegible]

[illegible] 2 [illegible] furrows [illegible]

[illegible] (1997) [illegible]

[illegible] 2 – 1 [illegible]

[illegible] (Kummel) [illegible] (Schwartzmann, 1983 [illegible] Excorations [illegible] 22 [illegible] 35 [illegible] (Smith and Claypole, 1967) [illegible] *bubalis* [illegible] 30 [illegible] (Chakrabarti *et al.*, 1981) [illegible] (Chakabarti, 1990) [illegible] 3 [illegible]

ɃÀÎǴöä āÀƨä ȯÅÔÅǪèɼ ǥáÅʒ ʠÀõ āÀƨä (БǗ Ƀáúǩ) ǼǴÊǩ ɄøǪöä ǦǼǷäɀǼΣä ţäɀǷɉä ·ƙʒɀǴèǗ ȯŸǹ ǦƨÅȞɳ ɉşá øǼÔţä ɄøǷäɀǼΣä

ɭÊƨä ȸɳ ĘùÅÅɳ ȸɳş âǗÀöä ȸɳ ǧÅǷäɀǼΣä Ž ɄɳøÅŌöä āÀƨä ǕǼǴÅ ·ǧÅǷäɀǼΣä Ž ôÀţä Ž ǧÅɀǿä ǼȽÅÎǩ ·(Davis and Moon, 1990) ǥáÅʒ (delicate ɀȽÅɳ) ɀǼȞȓ ǼŸDZ ÅŢǼɀ Ž ÅȽōş ·ɀǷɉäş ĘɀäÀţäş ɉǽɉä ǦŸǼèè ʔŸʒ ·āŸȮöä Ž ÛǦǴęÀöäş âǗÀöä ʔŸʒ ǧÅǼŸǼɭä ŌȮÎǩş ǥǼǼȉ ǦȮǥ ʒɳ ɄDZøǗ ȆÊƠ БǗ ɉäɀǼΣä âɀè Ƀáúǻ ·ǦÅÀÎǴöä ǧÅǼŸǼÅÛöä ǧŸÔǻɀΣä ǳÅǪÅǷä āÅÔţä ɉäɀǼΣä ŌǴę ȸɳ ǼǼǼÎöä êǼɭä ǼǴÊä ·ǧŸÔǻɀǥş ǧÅùÅÛǥ øşÀɳ ʒɳşǗ ǼǼŸÔɳ ǼŸəÅè ÂøÅǩ Åɳ ǼǴöÅɖ ɄøǪöäş Ûscabby ǒÅǽÀDZ ǧÅʒɀŸǽ Ż ǼŸƛ ÅŢǪǼÛ8ǩş ǧÅÅȒɖ ŌȮÎǩş ǼŸƨä ȸǺǯǩ ǼǴÊǻ Åư ɉäÀŌǪöä ȓÀɀş ȳÅȒöä ǰǼÊǻŸö ÀǪÅȮǩ ǫǼʒ Ǩęɀöä áşǼɫä āÀƨä ÀǪúǻ ɼ ·ǼȒǻǗ ÀǩäɀǪɳ êǼÅŸö ǦDZɀǼǪǻõ ǦǽÅÔţä ĘùÅÅţä Ž ÀȞÎöä ǼŌɀ ·creases БǗ ÀÎǪǻǻ ÅɳǼÅʒ ǼøÅȓ ǼÀǪǗ ǼǴÊǻ Ǽę ȸȮö Û î Åǹ ŌȮÎǽ ɉäɀǼΣä ǦȞȮö ʔŸʒ ǥƘ8ö ǦŌÛÅɳ Ž ·ɉäɀǼΣä ǧɀɳ ǼǴÊǻ Ǽę ȼǷǗ ʔøǪǥ ÛǦȞèäş ǦŌÛÅɳ

Ōǹáǖ) ǨǼÅɳǗ ɄøǪöä ǫÅǷɋä ǦÛèäɀǽ *ǦɳøÅŌöä* ŌŌǪǻǩ ·ȯÅŌǪǷɼä àÀùş øÅÎǪǥɼä øǼÔɳ ŌŌǪǻǩ ·ȆȮȞöä ʔŸʒ ·ÅǼęÅÅǷǗ ǒÅǻǴǽ ǕǼǴǩ ɉǗ ŌǴę Ōöǽş ÛɄÊǼǽø ŌȮÎǽ ǼǯǻǼǥ (ɄøÅţä ÅǼǼöǗ åÀÅöä ǼŸDZ ɉɀȮǻ ɉǗ Ǽƶ ·ƙǪöÅΣä ÅǪŸõ Žş ·ǧäøáÅɭä şǗ ǧÅęƘöä Ʒʒ *Notoedres ǥÅÅŢŢöä* ǼDZş ·ÀÎǴöä ƙǽ *ǦɳøÅŌöä* ȯÅŌǪǷä ǦöÅǥ Ž ·ÀÎǪɫä åÀÅöä ǼŸDZ ʒɳ ĘǼǪş âÅǪ ʔŸʒ ǼȞǪÊţä ǦǪɀŸţä ǒÅǼȉɉä Ʒʒ contagion ʔşǼȞöä ɉǗ ɄøÅȞǻ Åư Ûfomites ǦǻǼȞɳ ǧäşáǗ ʔŸʒ âɀÊöä ʔŸʒ¯ ɉäɀǼΣä ɭÊDZ ȸʒ ǼǼȞǽ ȳÅǗ ǥǼʒ ǼǥǗ ʔŌǴǻ ɉǗ ɄŸÅÛöä ǦʒÅÛǪèÅǽ ɉÅõ Åţş ·ǦǻȮư ǒÅǼȉɉä ȻØȽ ɉǘɀ ¯ ǯÀÊöä şǗ ȳÅDZŸöä şǗ ɉäɀǼΣä êÀǪÅɳ şǗ ɀȉàÀÎöä şǗ ɀȉÅÅţä şǗ ȆǽŸţä ·øÅÎǪǥŸö øǼÔȽõ ȳǼƠ Ǽę ÅŢŸõ (áäɀţä)

ǼǒÅÔǪţä ȯÅŌǪǷɼä ɉǗ ɼǗ ·ȼʒɀǷ ɭDZÅŢǻ ɃØöä âɀÊŸö ţáɀǪÊɳ ɀȽ ɄøǷäɀǼǥ ţɀǷ Ōõ ÛɄÊǼǽø ŌȮÎǽ ɉÅÊǷǗ БǗ ɉÅÊǷǗ ȸɳ ǥáÅʒ ɃÀÎǴöä āÀƨä ŌŌǪǻǻ ·ǼǷÅǼǥǗ ǫǼʒ ţäɀǷɉä ƙǽ ȯÅȽƨäş ÀǻàÅǻɭäş Âʒ Åţäş ȳÅǻɖɉäş ǦǼȉÅţäş āŸȮöäş ŌǼɭÅõ ÛǥǼǻǼʒ ǧÅǷäɀǼǥ ɉǗ ɼǗ ʒǼȉǗ ǼǥǗ ·ǼǷÅǼǥǗ ɉÅÊǷɋä БǗ ȼŸŌǻǩ Ǽę Ûɉäɀ ǼΣä ĘǽäǼǥ ǧÅǷäɀǼǥş bubalids ǧÅǼèɀɳÅƨäş

[illegible] %1 [illegible] 34 [illegible] 28 [illegible] 65 [illegible] 20 [illegible] Smith and Claypole) [illegible] %33 [illegible] (1967 [illegible] (Schwartzmann, 1983) [illegible] 27 [illegible] 143 [illegible] (%40.6) 58 [illegible] scabiosis [illegible] %25 [illegible] (Larsson, 1978) [illegible] 52 [illegible] (%67.3) 35 [illegible] (%42.3) 22 [illegible] (Charkabarti *et al.*, 1981) [illegible]

[illegible]

[illegible] 7 – 5 [illegible]

[illegible] %15 – 10 [illegible] 5 [illegible] furrows [illegible] epifluorescent [illegible] .(Argenziano *et al.*, 1997) [illegible]

[illegible]

[illegible] acaricide [illegible]

[illegible]


Argenziano, G., G. Fabbrocini, M. Delfino. Epiluminescence microscopy. A new approach to *in vivo* detection of *Sarcoptes scabiei*. *Arch Dermatol* 133(6):751–753, 1997.

Arlian, L.G., M.S. Morgan, J.J. Arends. Immunologic cross-reactivity among various strains of *Sarcoptes scabiei*. *J Parasitol* 82(1):66–72, 1996.

Beck, W. [Animal mite-induced epizoonoses and their significance in dermatology]. *Hautarzt* 47(10):744–748, 1996.

Chakrabarti, A. Some epidemiological aspects of animal scabies in human population. *Int J Zoonoses* 12(1):39–52, 1985.

Chakrabarti, A. Pig handler's itch. *Int J Dermatol* 29(3):205–206, 1990.

Chakrabarti, A., A. Chatterjee, K. Chakrabarti, D.N. Sengupta. Human scabies from contact with water buffaloes infested with *Sarcoptes scabiei* var. *bubalis*. *Ann Trop Med Parasitol* 75(3):353–357, 1981.

Davis, D.P., R.D. Moon. Dynamics of swine mange: A critical review of the literature. *J*

*Med Entomol* 27(5):727–737, 1990.

Elgart, M.L. Scabies. *Dermatol Clin* 8(2):253–263, 1990.

Fimiani, M., C. Mazzatenta, C. Alessandrini, E. Paccagnini, L. Andreassi. The behaviour of *Sarcoptes scabiei* var. *hominis* in human skin: An ultrastructural study. *J Submicrosc Cytol Pathol* 29(1):105–113, 1997.

Fontaine, J. Zoonoses et dermatoses: le point de vue du veterinaire. *Rev Med Brux* 21(4):A247–250, 2000.

Larsson, M.H. Evidências epidemiológicas da ocorrência de escabiose em humanos, causada pelo *Sarcoptes scabiei* (Degeer, 1778) var. *canis* (Botirguignon, 1853). *Rev Saude Publica* 12(3):333–339, 1978.

Lee, W.K., B.K. Cho. [Taxonomical approach to scabies mites of human and animals and their prevalence in Korea]. *Korean J Parasitol* 33(2):85–94, 1995.

Mitra, M., S.K. Mahanta, S. Sen, C. Ghosh, A.K. Hati. *Sarcoptes scabiei* in animals spreading to man. *Trop Geogr Med* 45(3):142–143, 1993.

Normaznah, Y., K. Saniah, M. Nazma, J.W. Mak, M. Krishnasamy, S.L. Hakin. Seroprevalence of *Sarcoptes scabiei* var. *canis* antibodies among aborigines in peninsular Malaysia. *Southeast Asian J Trop Med Public Health* 27(1):53–56, 1996.

Parish, L.C., R.M. Schwartzman. Zoonoses of dermatological interest. *Semin Dermatol* 12(1):57–64, 1993.

Park, G.S., J.S. Park, B.K. Cho, W.K. Lee, J.H. Cho. [Mite infestation rate of pet dogs with ear dermatoses]. *Korean J Parasitol* 34(2):143–150, 1996.

Skerratt, L.F., I. Beveridge. Human scabies of wombat origin. *Aust Vet J* 77(9):607, 1999.

Schwartzman, R.M. Scabies in animals. *In*: Parish, L.C., W.B. Nutting, R.M. Schwartzman, eds. *Cutaneous Infestations of Man and Animal*. New York: Praeger; 1983.

Smith, E.B., T.F. Claypoole. Canine scabies in dogs and in humans. *JAMA* 199(2):59–64, 1967.

Walton, S.F., J.L. Choy, A. Bonson, *et al*. Genetically distinct dog-derived and human-derived *Sarcoptes scabiei* in scabies-endemic communities in northern Australia. *Am J Trop Med Hyg* 61(4):542–547, 1999.

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